

ROYAL INSCRIPTIONS ON BRONZE ARTIFACTS FROM THE UPPER ANZAF FORTRESS AT VAN

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The Anzaf Fortresses consist of two parts, namely the Upper and the Lower Anzaf.² The Lower Anzaf Fortress lies 11 km. north-east of Tuşpa (Van Fortress), the capital of the Urartian Kingdom, and close to the modern Van-Iran railway and main road (Belli 1992: 28) (Map 1).

The Anzaf Fortress, some 900 m. to the south of Lower Anzaf Fortress, was built by Menua, son of the Urartian king Išpuini (c. 810-786 B.C.). As with the Lower Anzaf, we do not know the Urartian name of the Upper Anzaf Fortress. The Upper Anzaf is ten times larger than the Lower Anzaf, covering an area of 60.000 m². At 1995 m. above sea level, the Upper Anzaf is the highest site in Turkey. In contrast to the Lower Anzaf, the Upper Anzaf was built as an important centre for the storage of agricultural products from the surrounding fertile lands. The water collected in the small dam 1 km. to the east, built by King Menua, played a significant role in agriculture (Belli 1995: 27). Amazingly, with minor alterations, this dam is still in use today, aiding cultivation of the fertile land lying to the North. The lower city, lying to the south of the fortress, covers an area of 141.000 m² (Fig. 1). The lower city with its surrounding thick walls, remains within the borders of modern village of Dereüstü (formerly Anzaf). The lower city, one of the best examples of early Urartian settlements, was planned and built at the same time as the fortress.

The earliest known square-planned temple dedicated to Haldi, the national god of the Urartian Kingdom, was built in the Upper Anzaf Fortress (Belli 2004: 284). Also, 22 different monumental marks were hewn into rock-cut surfaces at the eastern and northwestern parts of the fortress, symbolising the sanctity of the fortress (Belli 1989: 98). None of the other fortress built in the reign of King Menua have such a variety of monumental rock-cut signs. If we keep in mind the small number of monumental rock marks at Tuşpa, the Urartian capital, and in the area around Meher Kapısı, we can easily understand that the Upper Anzaf Fortress was an important cultic centre. In addition, the unique depictions of the Urartian deities on the votive shield from the room on the west side of the temple, in which other objects and weapons dedicated to the God Haldi were also found, confirm that the fortress was a cult centre (Belli 1999: 18).

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The Upper Anzaf Fortress displays all stages of development in Urartian architecture, the buildings within the fortress being constructed at different periods during the 200 years that elapsed between its establishment and its collapse. The eastern gate of the lower city, the storage buildings attached to the western fortress walls, the northern and southern gates of the fortress with the High Tower protecting them and the temple with its courtyard were discovered in the excavations which are ongoing since 1991 (Belli 2001a: 40).

Kitchen and Storeroom

The kitchen is to the north of Haldi Temple and in the east of the storeroom 5, having a rectangular plan of 21 m. x 5 m. Its eastern wall has a height of 3.5 m.; the collapsed walls of buildings in the east had heavily destroyed the west wall. The floor is of stamped clay and the room yielded an oven and two pithoi. Among the other finds are lumps of iron, stone bowls, large quantities of lentil (*lens culinaris*) and wild pea (*cicer anatolicum*) and traces of red (hematite), yellow (limonite), blue and white paint (Belli 2001b: 170).

Storerooms with Pithoi

Numerous storerooms with pithoi are located 16 m. north of the kitchen, built adjacently in a north-south direction. The storeroom 1 measures 5 m x10 m and it too has a rectangular plan; its mud-brick walls were painted in blue. Storeroom 2 is entered by a 1.60 m. wide door at the northeast corner of Room 1 and has fourteen pithoi buried into the ground up to their bodies. The diameters of the lips change between 70-80 cm. and some of the pithoi are considerably large in size. These, without doubt, are the earliest examples. There are no cuneiform inscriptions informing us about the amount of liquid they hold, although some signs and ideograms are observed. Most of them are familiar from other Urartian centres, but a minority of signs are new to us.

A wall with a width of 1.60 m. separates storerooms 1 and 2 (Fig. 2). The latter's dimensions are 5mx10m. It bears traces of blue and white paint. The east wall has four niches placed at 1.5 m. intervals. They are 55 cm. high, 60 cm. wide and 55 cm deep, probably carved for placing various objects and vessels. The 1.20 m-wide door opening on the south wall opens into another room, which is linked to the room with pithoi to its east. Each of the sixteen pithoi found in the room, carry scales and stamps. Five of them also have single-line cuneiform inscriptions, bearing the names of the measurement units *akarqi* and *tirusi*. According to the inscriptions, four pithoi hold five *akarqi*, one holds six *akarqi*, while two pithoi can store two, and one pithos three *tirusi*.

Between the storeroom 2 and 3 is a wall with a width of 1.60 m. Room 3 is rectangular in plan and measures 6.5 m. x10 m. Two ovens in front of the southwest wall indicate its use as a kitchen. It is entered from a room in the south via a 1.80 m. wide door opening, which is filled with soil and stones.

A wall of 1.5 m. thickness separates storerooms 3 and 4. Room 4 measures 5 m. x 10 m. and its walls are approximately 4.5 m. high. The southern part was secured as a

kitchen by a wall and on the west wall there is a niche. On the south wall is an opening of 1.75 m high and 80 cm wide, which leads into another room. This room yielded an interesting item, a Scythian harness made of bone. It seems that Scythians temporarily settled in the rooms that survived from the destruction of the fortress where they left their ashes and bones of their meals. The absence of small finds indicates that the Scythians took away all the objects after they had razed the fortress.

Storeroom 5 is located 1.5 m east of storeroom 4. Its north wall collapsed and rolled down because of the steep slope and other storerooms, which must have been to the east suffered from the same fate. The steps adjacent to the southwest wall leads to an opening in the south. These are six in number each with a width of 1.5 m and measure 4.30 m from the floor to the top. It is a typical storeroom opening to other rooms in the south. Similar storerooms with the same plan and design are known from Çavuştepe and Karmir Blur.

The most important aspects of the above mentioned rooms are their connections through small openings, which are also present on their southern walls. We left these intact in order to protect them from collapsing and only excavated the small rooms in the south.

One of these, room 6 to the south of storeroom 1, is measured 2.60 m. x 4.20 m. and on its southeast wall is a 1 m. wide opening, which connects it with another room in the south. Its stamped clay floor was encountered at 4.30 m. below the surface.

To the east of room 6 is room 7, measured 2.50 m x 5 m. A 1.5 m. wide wall divides these two rooms. Its white painted mud-brick walls rise on stone foundations. There is a small opening at the southeast corner leading to the room in the south. The stamped clay floor was reached 4 m. below the surface.

Immediately to the south of storeroom 3 is room 8, which is separated from room 7 by a strong wall of 1.5 m width. A large pithos found at the northeast corner is broken. Its fragments have popular hatched triangle motifs. Similar pithoi are observed in the libation scenes on the bronze belts. A large arched niche is on the east wall, and opening with a width of 1.20 m exists on the south wall, which apparently opened into the great hall.

Room 9, to the south of room 8, is 2.5 m in width and 5 m. in length. On its south wall is an opening leading into the great hall. An arched niche exists on the west wall, but it is smaller than the one in the room 8. Iron arrowheads and sword fragments show that the room served as an arsenal.

Corridor 10 stretches in the north-south direction and is wider and longer, and all the rooms in the west open into it, revealing its function as the main corridor. Due to the elevation Room 5 in the north can be reached by means of six steps. Its white plastered mud-brick walls were built on stone foundations and heavily burnt by a severe fire. Burning roof beams, wooden doors and other wooden objects destroyed everything in the corridor. Pebbles were placed beneath the floor in order to obtain a hard surface, a practice unique to the Urartian fortresses. The end of the corridor is yet to be found, but it appears to extend towards the court of the Haldi temple in the south. The relations of the rooms with the main corridor will be examined next year.

A door, 2 m in height and 1.5 m in width, leads to the great hall (room 11), as do the rooms 8 and 9 with doors on their south walls. The great hall too, was built with mud-brick on stone foundations with white plaster. Three arched niches and a small one apparently for an oil lamp, as can be deduced from the soot traces on the top of the niche, were carved on the south wall. The floor is of stamped clay. Near the centre are four column bases, but only two of them are *in situ*. The fallen walls displaced the rest and the debris also brought two pithoi next to the bases. The bases are of sandstone and their diameter at the mouth is between 50-60 cm. No inscriptions are seen on the bases, but their existence is a proof enough for their greatness.

There is a thick layer of ash on the floor caused by the burnt wooden beams and columns. The present dimension of the hall (room 11) is 10 m. x 14 m, but it probably extends towards west. It is quite clear that the north rooms are linked to the great hall. In the next campaign the door openings of rooms 6 and 7 will be cleared, and we also plan to reach the west wall of the great hall and reveal the relationship between the hall and the rooms in the south.

The main corridor and the great hall have yielded numerous basalt and sandstone grinders, bone loom weights, weaving tools, a bronze bracelet, a knife, a sickle and a needle. These tools suggest that the rooms were used as production workshops. Iron and especially bronze harnesses, arrowheads, and sword fragments come from the room 9. The bronze cast arrowheads and scabbard are heavily oxidized. They are valuable finds since they bear inscriptions, thus their conservation was a long and tiresome process. They first underwent a radiological investigation in the laboratories of the Istanbul Technical University and then were carefully cleaned mechanically and strengthened by chemical solutions against corrosion by specialists in the laboratory of the Department of Restoration and Conservation of Cultural Heritage of the Faculty of Letters of Istanbul University.

New Inscriptions on Bronze Objects

Among the inscribed small finds of the last campaigns of the excavations at the Upper Anzaf Fortress, there is a clay tablet, a bronze arrowhead, a bronze sword sheath and a rectangular bronze sheet, all uncovered in the area of the storerooms (for the previously discovered epigraphic documents at Anzaf, see: Dinçol-Dinçol 1994). Except the tablet, which is being studied by our colleague Mirjo Salvini, the rest will be discussed below.

The rectangular bronze sheet (Fig. 3, 4)

In the great storeroom 11, a rectangular bronze sheet was unearthed, which measures 5 cm x 3, 7 cm has an average thickness of 2 mm. Only one side of it is inscribed and divided into five lines. Between each line there is a blank strip of ca. 2 mm. width. The text reads:

1. ^D*Hal-di-e*
2. *e-ú-ri-e*
3. *i-ni a-še*
4. ^m*Me-nu-a-še*
5. *uš-tú-ú-ni*

“To the God Haldi, to the lord, Menua dedicated this shield”

It is surprising to see this inscription not on a shield itself but on this bronze sheet, since it is the first time we have encountered such a find. At the left edge of the object, there is a protuberance, which probably is the remaining end of a broken loop, which was used to bind it as an explanatory tag to the votive shield. The shield to which this tag belonged has not yet been found.

The bronze arrowhead (Fig. 5, 6, 7)

In the small storeroom 9, a bronze 8 cm long double winged arrowhead with an almost equally long plug to fasten it to the wooden shaft was brought to light. In contrast to the arrowheads at Karmir Blur and Çavuştepe, which bear inscriptions parallel to edges (Piotrovsky 1970: Fig. 54, 55; Vanden Berghe and De Meyer 1982: 138, fig. 33; Erzen 1978: 35, fig. 40), this one has two lines of inscription around the lower part of the body. It reads as follows:

1. ^D*Hal-di-e*
2. ^m*Me-nu-a-še uš-tú-ni*

“Menua dedicated to the God Haldi”

The bronze sword sheath (Fig. 8, 9, 10)

Along with the previously discussed arrowhead, a bronze sword sheath was also discovered in the storeroom 9. Only one inscribed sheath has hitherto been published which according to its inscription is contemporaneous with the Anzaf sheath, but shows a completely different type (Belli 1992: 48-49, Abb. 2, Pl. II, 1). Sheaths found on iron swords bear no inscriptions. One of these examples is kept in the Museum of the Ancient Orient in Berlin, while the other is preserved in the private Ebnöther Collection in Geneva (Wartke *apud* Merhav 1991: 330-331). They display a striking similarity to each other and both of them are decorated in the middle by two flutes. The Anzaf sheath is 11, 5 cm long and is not fluted; instead there is a single carination in the middle on both sides, which divides the surface into two parts. These were used as the lines of the inscription. The sheath found at Karmir Blur (Piotrovsky 1970: Fig. 51, 52, 53) and the sheath on an iron sword in the Adana Museum (Işık 1987: Fn 79 and Zeichnung 13) look very much alike, but both of them are uninscribed. The lines on the obverse of the Anzaf example read as follows:

1. ^d*Hal-di-i-e e-ú-ri-i-e* ^m*Iš-pu-ú-i-ni-[še]*
2. [^m]^d*Sar₅-du-ri-e-hi-ni-še uš-[tú]-ni*

“To the God Haldi, to the lord (has) Išpuini, son of Sarduri dedicated”

On the reverse the following can be seen:

1. [i-ni] pu[?]-ú[?]-i[?]-x-ni ul-gu-ši-ia-[ni] e-d[i-ni]
2. [x-x] x-a-i x-ni [x-x]-ia x x [x x x]

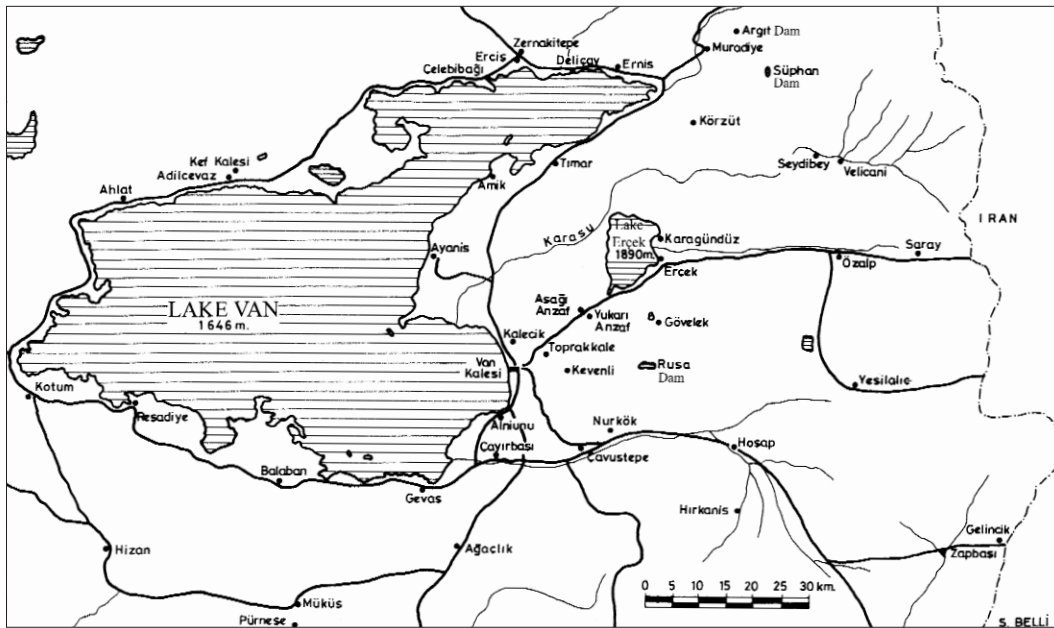
In the first line on this side, which is more corroded than the obverse, one expects to find – depending on hitherto known examples of similar texts – the name of the votive object. Here either the Urartian word for sword, or its sumerogram should be considered. But the traces of cuneiform signs do not allow to interpret them as GÍR “sword” or AN.BAR “iron” or the Akkadian word for sword “patru”. The translation of this should be:

“this sword for his life”

It is beyond our capacity to extract something meaningful from the remaining traces in the second line.

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Map. 1. The location of the Upper and the Lower Anzaf Fortresses.

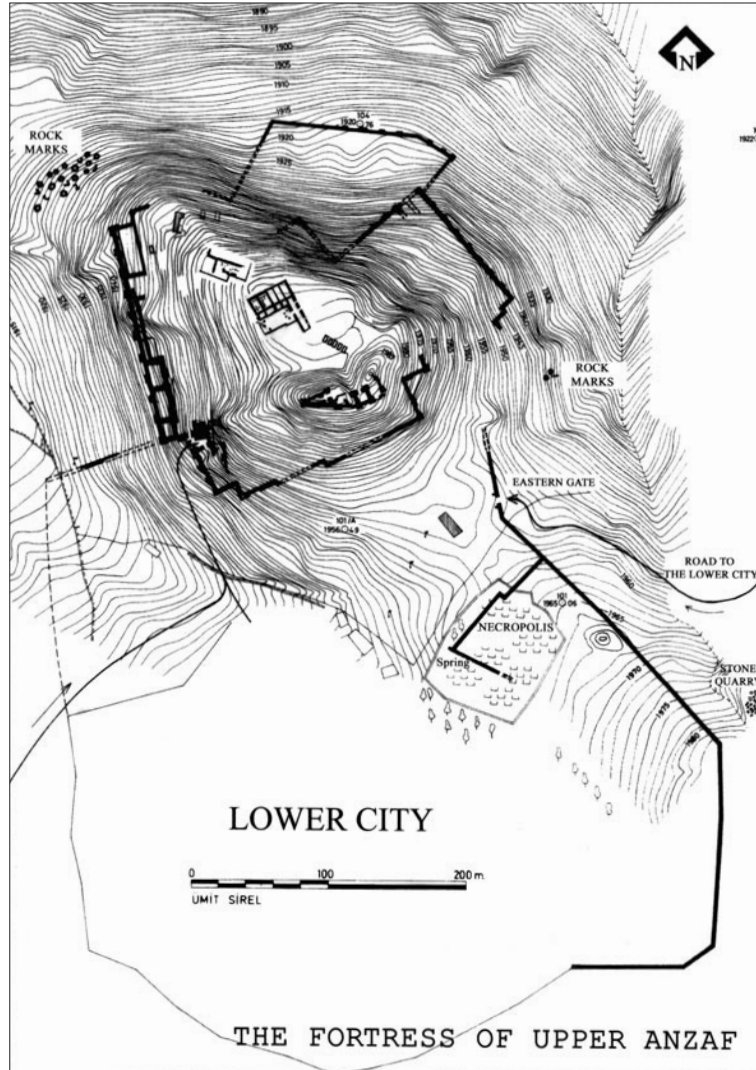


Fig. 1. Topographical plan of the Upper Anzaf Fortress.

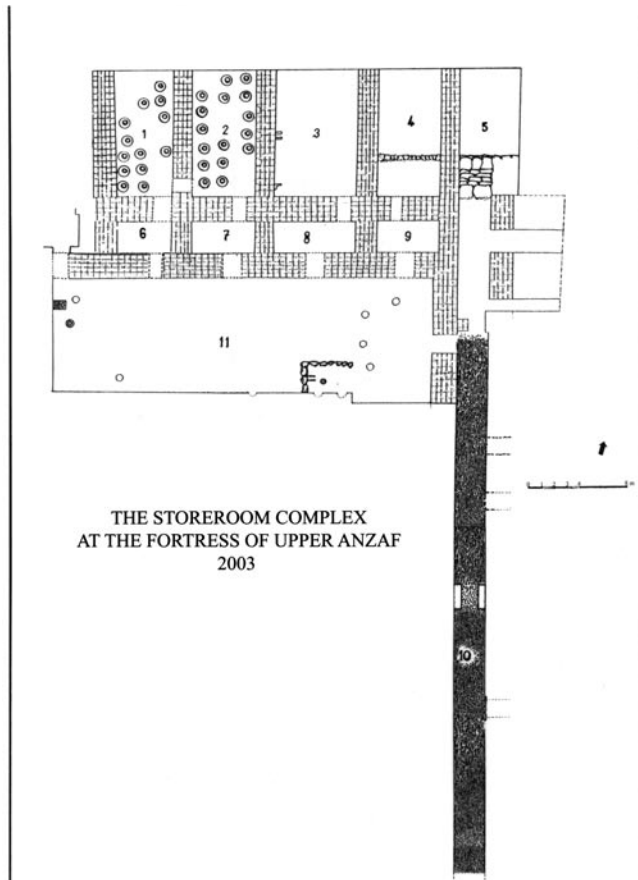


Fig. 2. General plan of the storeroom complex.



Fig. 3. The rectangular bronze sheet.

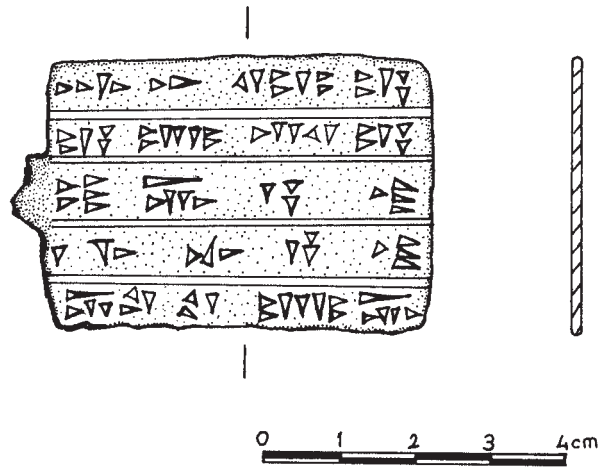


Fig. 4. The inscription on the bronze sheet.



Fig. 5. The arrowhead: obverse.



Fig. 6. The arrowhead: reverse.



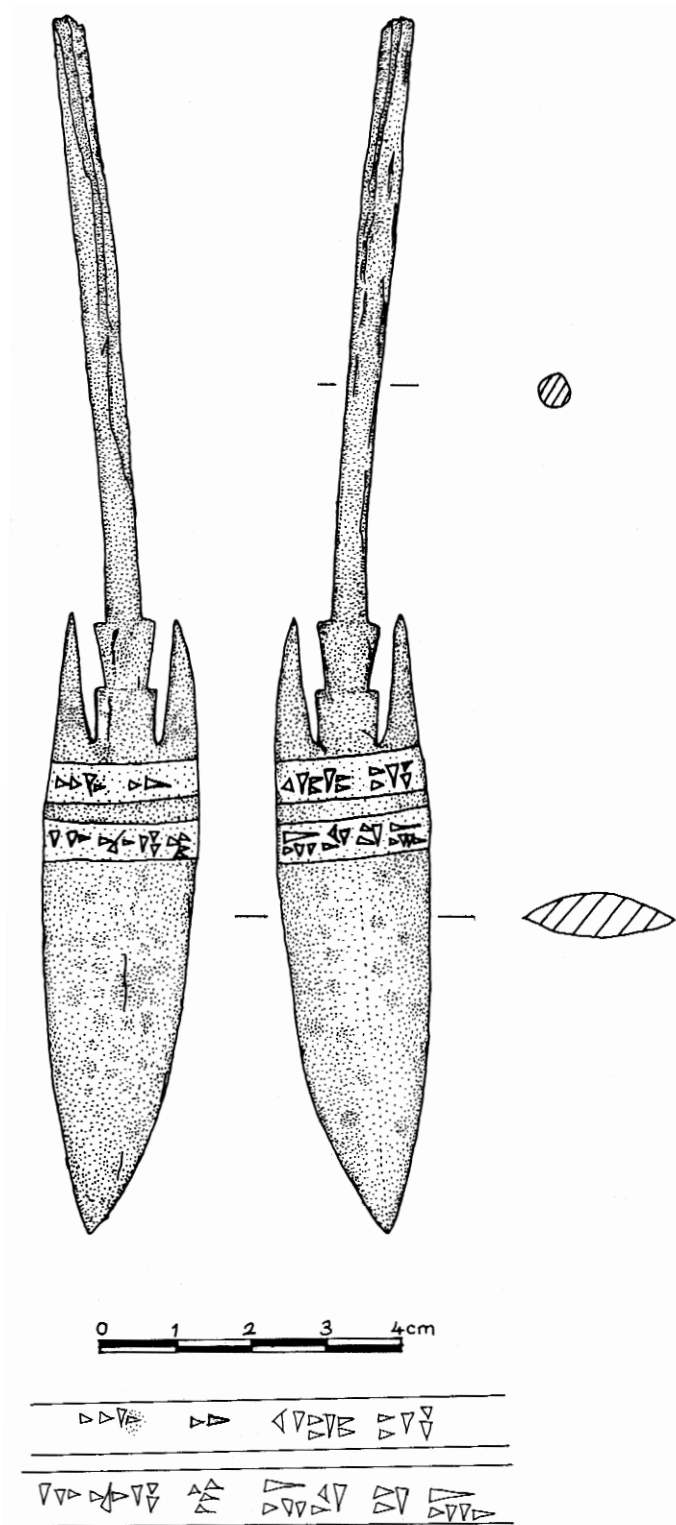


Fig. 7. The inscription around the arrowhead.



Fig. 8. The bronze sheath: obverse.



Fig. 9. The bronze sheath: reverse.

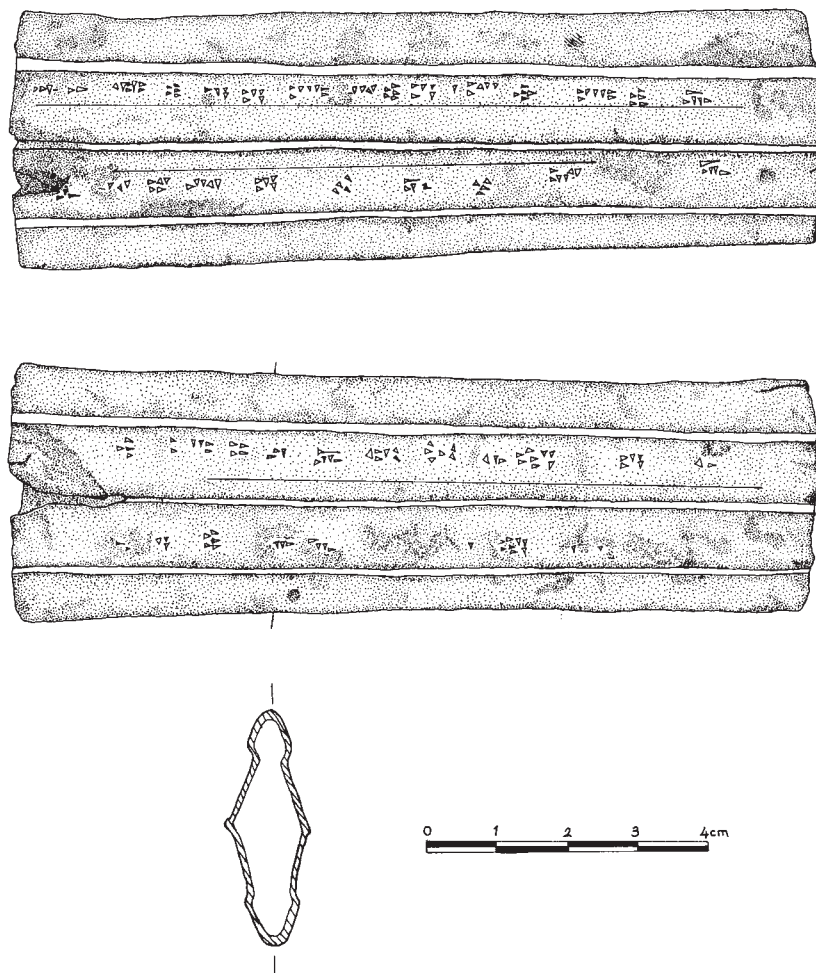


Fig. 10. The inscription on both sides of the sheath.

SOUNDINGS AT EARLY BRONZE AGE HACILARTEPE IN THE IZNIK REGION (NW ANATOLIA)

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Introduction

Hacılar-tepe is situated in the western alluvial plain of the Iznik-lake, two kilometres South of the modern town of Orhangazi (fig. 1A). Soundings were undertaken at this site in the years 1992, 1994 and 1995 as part of the excavation project at the nearby site of Ilıpınar Höyük under direction of J. Roodenberg.² At the centre of the mound a test pit of 7 x 9 m was dug down to the virgin soil (fig. 1B) in order to investigate the stratigraphy, architectural features, pottery styles and absolute chronology (radiocarbon dates). It was hoped that the occupational debris would fill, at least in part, the hiatus between the Late Chalcolithic burials of Ilıpınar's Phase IV (Roodenberg 2001, 351) and the Early Bronze Age cemetery of Ilıpınar's Phase III (Roodenberg 2003, 297). It turned out however, that Hacılar-tepe was inhabited only during the first half of the 3rd millennium BC, contemporary with the EBA burial ground at Ilıpınar. It is plausible to assume that the occupants of Hacılar-tepe buried their dead 300 m to the North, on the mound of Ilıpınar. This article presents a review of the stratigraphy, the pottery tradition and radiocarbon dates.

Sounding and Stratigraphy³

The mound measures 120 metres in diameter and has an accumulation of debris of 4,2 metres at the centre.⁴ The sounding of 7 x 9 m was deepened by leveling the surface 5 cm at a time; the area was cleaned and the occupation features documented. Seven occupation layers were determined by the occurrence of building floors. When several successive floors are taken into account, four main building phases can be distinguished (Phases IV-I; oldest to youngest phase). The complete excavation area for Phases I-III (Layer 1 to 5) could be levelled. Due to time constraints, from Phase IV (Layer 6 and 7)

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² Permission for the soundings at Hacılar-tepe was given by the Service of Antiquities and Museums in Ankara.

³ The architectural features were worked out by R. Torremans in an internal report (2001). The author in general follows the conclusions of this report and wishes to thank Torremans for his contribution to the subject. Any mistakes remain of course entirely the authors' own.

⁴ D. French estimated its diameter at 150 metres and its elevation at 4 metres when visiting the mound in 1965 (French 1967, 52).

only the western half of the test pit, measuring 3,5 x 4,5 m, was excavated down to virgin soil while leaving the eastern half untouched at the top level of Layer 6.

Architectural Features of Phase IV

At the basal level of Phase IV (Layer 7), the oldest features of the settlement are refuse pits (features RG-RJ) dug in the virgin soil and narrow oblong features with a greyish clay filling, likely to be drains (fig. 3). At the top of this layer another drain-like feature together with a concentration of pottery sherds, two spindle-whorls and animal bones were uncovered. The concentration of debris may hint at the use of this surface as an activity area. A semi-circular fireplace was found in the southwestern part of the square. The overall picture of Layer 7 compared to the younger layers is that of a decrease in occupation features and debris, which suggests that the occupation grew gradually in density through time.

The lower part of Layer 6 revealed a drain, lines of postholes with varied depth (20-45 cm) and a refuse pit. Some postholes enclosed a surface of yellowish clay with burnt daub fragments. At a higher level a grey mud floor surface with burnt spots was uncovered (fig. 3). Some fragments of burnt mud-bricks⁵ were lying on the floor surface. A pit dug through the floor (feature RE) was lined with large pottery sherds. A shallow basin (feature YF), sunk in the floor, contained carbonised grains and charcoal. Two ¹⁴C samples were taken from the charcoal and the grains respectively (QC 233 and SJ 234). At its south side the floor surface was partly enclosed by a row of small postholes (diameter approx. 5 cm).

Above the floor level a concentration of broken but almost complete pots was found in the southern half of the square. Noteworthy among them is a 'burial jar' in this jar, there were the remains of an infant and some skeleton parts of a young child. The practice of burying young children and juveniles among household debris is a widespread phenomenon throughout prehistoric and historic times (Bailey 2000, 245; Alpaslan-Roodenberg 2002, 94, 96). Evidenced by the EBA cemetery at Ilipinar, juveniles and young children were in some cases given an extramural burial treatment (cf. Wheeler 1974, 416; Roodenberg 2003, 303).

Architectural Features of Phase III (Layers 5 and 4)

Different floor surfaces occurred slightly above each other within Phase III in the western square. These floors most likely represent two or three successive structures. In the lower part of Layer 5 three floor surfaces were uncovered. These floors are in fact remakes and belong to the same structure. The uppermost surface was best preserved, made of a layer of hard mud. The area was enclosed by sidewalls consisting of mud-bricks without a standardised size (fig. 3). Wooden parts were uncovered against the

⁵ These bricks are of different sizes. The mud-bricks probably filled up a wooden frame in the same way that can still be seen in the more traditional villages around the Iznik-lake.

sidewalls that could be the remnants of a wooden framework.⁶ Two partly overlapping plastered platforms were recognized (features YC and YD) on the floor. East of the building, pottery was trampled into the ground, thereby marking a walking surface. The two fragmentary floor surfaces slightly beneath this well-preserved floor consisted of a hard lime plaster and a layer of greenish clay.

At the top of Layer 5 and the bottom of Layer 4, in the eastern half of the square, a row of postholes was detected (fig. 2: diameter between 5-15 cm; varied depth from 15 to 60 cm). The posthole structure appeared to be somewhat older than the upper floor surface in the western half of the square. This floor consisted of wooden boards (fig. 2, Layer 4) underneath which a soft layer of clay with straw impressions and a hard layer of clay with traces of burning came to light (Layer 5). Covering the mud floors with wooden boards is a novelty in the history of this settlement but not new in this area⁷.

The wooden floor was made of at least twenty North-South oriented wooden boards. The boards were supported by three East-West oriented cross-beams. The floor was partly disturbed by a refuse pit (RC) dug from the same level. The area between the western floor and eastern posthole structure revealed complete pottery vessels, concentrations of stones, trampled pottery fragments and other waste material (e.g. a fragment of an antler). It seems this space was in use as a courtyard and activity area of the structures. In the southeast corner of the square, the bottom of refuse pit RA was recognized (fig. 2).

Architecture of Phase II (Layers 3 and 2)

The floor surfaces were now located in the northeastern part of the square from Layer 3 onwards. The top of Layer 4 and the bottom of Layer 3 were separated by a clay deposit without clear features. Two structures were present in Layer 3, one in the North and one in the South. The southern structure consisted of a floor surface with some fragments of wooden boards and a sidewall lined by a row of postholes. Directly above this structure, burnt clay spots and more wood remains were found. The northern structure, representing a floor surface laid with wooden boards, came to light at this slightly higher level (fig. 2). The remains of this construction consisted of eight North-South oriented boards laid on top of two East-West oriented cross-beams. The boards are larger than the ones from Layer 4. A row of small postholes running North-South along one of the boards is difficult to connect to the floor. Spindle whorls, an antler, a concentration of stones and other debris were found all over the surface.

Architectural of Phase I (Layer 1)

A deposit of clay and waste material – pottery, wooden board remains and burnt clay spots – with a thickness of ca. 20 cm is attributed to Phase I (Layer 2). Marking

⁶ At Demirci Höyük wooden frameworks in relation to collapsed sidewalls were also noticed (Korfmann 1983, 101, Abb. 169).

⁷ See Phases VII-IX of Ilıpınar (Roodenberg 1995)

Layer 2, in the northeastern part of the excavated area a floor surface of partially burnt wooden boards came to light. The wooden boards were laid in an East-Western direction and three North-South oriented wooden beams supported the floor.

Representing Layer 1, a successive and better-preserved structure in the same northeastern area was revealed consisting of a plastered surface bordered by a sidewall and the remains of more boards (fig. 2). A semicircular platform situated on this floor surface may in reality have been a fireplace. The sidewall became visible as a compact line of loam. Wooden fragments may have been the remains of this wall's framework. Alongside fragments of lime plaster and small stones probably originate from the wall plaster. South of the wall, pottery, spindle whorls and a copper or bronze needle were collected. The uppermost level of Layer 1 was disturbed due to erosion and recent farming activities. In and just below the topsoil, concentrations of pottery were found which probably originated from an eroded occupation layer to which refuse pit QA had belonged. Most of this pottery is wheel-turned and of the Inegöl Grey type, in contrast to the handmade pottery from the underlying occupation.

During the filling of the trench after the sounding was finished, the top of a circular stone wall running half way the mound slope came to light. This structure, which had a diameter of about 80 m, recalls contemporary Early Bronze Age radial plans known from Demirci Höyük, Troy I, Beşik Yassitepe and Thermi I.⁸

As a conclusion, changes in construction during the occupation are indicated by the use of different floor surfaces – from a plastered surface to wooden floorboards – and by shifts in the location of the buildings through time. It seems reasonable to assume, in light of the unearthed constructions and accumulation of waste material, that the occupation of Hacılarteppe did not last longer than 150 to 200 years. The hamlet was the habitat of a few extended families that during the life span of four or five generations who farmed in the marshy plains west of Iznik-lake.

Pottery⁹

As a source of clay, the local deposits containing mixed sand were exploited. No organic material, such as chaff or dung, was added to the clay as a temper. In a few instances the clay seems to be selected on a fine or rough grain size. When needed, possibly larger sand particles were added to the clay. The pottery is handmade and built up by techniques of coiling, pinching and in some cases prepared in a mould. Most likely a mould was used with concern of the bowl types and lower parts of jugs and storage jars. Typical is the special attachment of handles, especially on jugs, by the so-called 'dowelled-joint technique' (fig. 7:4-5: Van As et al. 1993/4, 55-73).¹⁰ The surface of the pot was smoothed, usually burnished and rarely decorated (less than 1%). The different

⁸ See the *Anatolisches Siedlungsschema* (after Korfmann 1983, 222-241). The scheme of 'row houses' surrounding an inner court is not restricted to the Early Bronze Age. The 'burnt village' of Ilıpınar Chalcolithic Phase VI gives a good example of such a radial settlement plan.

⁹ Technological study: N = 1100 (Van As et al. 1993/4, 55). Typological study: N = 13866, representing 20% of the diagnostic collected pottery.

¹⁰ Also referred as 'handles of the thrust type' (after Blegen et al. 1950, 65).

decoration types consist of geometric patterns, grooves, little holes and the application of plastic decorations. Geometric patterns are made by incisions, sometimes filled with a white paste, or only a pattern of white paste on the body of the pot. The white paste has often flaked off through time leaving dull places. Geometric patterns of white paste are usually applied on dark surfaced pottery, thereby giving a contrast to the dark colour of the pot. Plastic decorations consist of knobs, 'shallow fluting' and crescent shaped ornaments. As variations of the normal handle the 'imitation twisted handle', the 'lug-handle' and the 'crescent shaped grip' is used in the assemblage. The figures 4 to 9 give an impression of the different pottery types and characteristics.

More than three-fourths of the pottery sherds showed burnish strokes made by a pebble or spatula. Storage jars as well as platter types have an irregular burnished surface. The pottery is generally not finished with a very high burnish or polish. Most pots have a heterogeneous colour – 'mottled ware' – as a result of the use of an open bonfire usually resulting in grey to brown tones. Bowl and jug types display a more or less uniform black to grey colour, which points to control over the firing.¹¹

On cups with a pouring function in some cases an extra pouring spout is added on the upper body (fig. 6:7). The jug types ('Schnabelkanne') can be classified into a small type of about 10 to 15 cm and a large type of about 30 to 40 cm (fig. 7). The jugs have a more or less raised rim and a 'loop handle' attached on or just below the rim.¹² The large storage jars either have a closed profile or a clear neck ('Halspithos'). Closed pot types have an inward bent (85%: fig. 8:1-3) to S-shaped profile (15%: fig. 6:4; fig. 9:4). Lid types in some cases bear a geometric pattern. The bottoms of the pots are usually more or less rounded and in a few instances fragments of feet were found probably as part of a tripod (fig. 9:1-3). The find of quite a large footed bowl (windowed pedestal) and a 'Tiergefäß' or 'bird-vase' complete the spectrum of shapes (fig. 6:1-2).

The pottery assemblage shows an emphasis on a pouring function and thus the holding of liquids. A homogeneous assemblage is shown through the Phases III-I, while during Phase IV some changes occur. These characteristics are discussed below.

Pottery Styles

At Hacılartepé three different pottery styles can be distinguished. The first and main pottery style corresponds to the occupation Phases III-I and Layer 6 of Phase IV. A second and somewhat different pottery style is related to the oldest occupation of the settlement, Layer 7 of Phase IV (fig. 5). A third pottery style is identified in the topsoil of the mound and refuse pits dug from above Layer 1 representing a definite younger pottery tradition than the investigated occupation (fig. 9:12). In the following paragraph the two pottery styles that occur during occupation are reviewed.

The bulk of the material within the first and second pottery styles consists of open bowl types and closed pot types. Open bowl types are more frequently found among the waste material and remnants of the settlement than closed pot types (20% in favour of

¹¹ Cf. Rye 1981, 95-96, 105.

¹² A 'cutaway spout' or 'cutaway neck' was not attested in the material.

open bowl types) within Phases III-I. The bowl types either have plain open profiles (approx. 80%) or, to a lesser extent, profiles with an inward bent rim referring to the so-called 'anti-splash bowls' (approx. 20%). A third type of rim-bowl with a thickened rim, the 'rolled rim bowl', is rare and found only a few times. Representing the second pottery style, characteristic for Layer 7 of Phase IV, the distribution of pot and bowl types is different. In this oldest layer there is a preference for closed forms over open forms (one-third open bowl forms and two-third closed pot forms). The rim-bowls now have S-shaped to longer inward-bent rims compared to the short coils added as rims on the 'anti-splash bowls'. In Layer 7, the 'rolled rim bowls' are rare, but seem to be more often used than in the other phases (fig. 5:8).

The two pottery styles furthermore differ from each other through the use of decoration. During Phases III-I decorations with a geometric pattern are applied on jugs and lids (fig. 8). The picture is rather different within Layer 7 of Phase IV and especially bowl-types bear geometric patterns, in particular the inward-bent to S-shaped rim-bowls. Round incisions on the bowl types also only occur in Layer 7.

It is not possible to make a subdivision of different styles within the other pot types. The closed cups, jugs, platters and storage jars give the impression of a continuation in pottery styles without any changes through the four phases. The appearance of large loop handles in Layer 7 may be characteristic of pottery style 2.

Relative Dating of the Pottery

In the following paragraph comparisons to other EBA sites are made, especially to the well-known sites of Demirci Höyük in the region of Eskişehir and Troy I in the Troad. Hacılartepe can be given a relative age through the review of some supra-regional characteristics.

As noted above, two bowl-types can be distinguished: the plain convex 'Demirci-like bowl', known from the excavations of the early and middle phases at Demirci Höyük, and the typical Troy I-Iznik 'anti-splash bowl' classified by D. French (1965 and 1967). The attachment of the 'band-handle' on the bowl, typical of the 'Demirci-bowl', is not well-represented at Hacılartepe and may show a functional difference between the Demirci and the Hacılartepe bowls. This is further emphasized by the lack of the Troy I-Iznik type at Demirci in the early and middle phases, although that type is not as characteristic at Hacılartepe as the name suggests for the region.

During the late phase of Demirci Höyük (Phase L), the plain convex bowl develops into a shallow bowl with a S-shaped profile that fits the pottery style of Troy I-late (Efe and Ay 2000, 36, fig. 19). The lack of such a development in bowl profile within the assemblage of Hacılartepe compared to the long evolving traditions of Demirci and Troy I provides a *terminus ante quem*.

The small jug types collected at Hacılartepe can be compared to those present in the middle phase of Demirci (Phase H; Seeher 1987, 167-169). During this middle-phase geometric patterns and other ornaments are frequently placed on dark burnished jugs as is observed in Phases III-I of Hacılartepe. The geometric decorations on jugs and lids can be

further viewed in the light of the funerary pottery known from the 'Yortan cemeteries' (Kâmil 1982, fig. 33-34).

As a possibly better chronological indication the fragments of 'imitation twisted handles' and the presence of the typical 'Halspithos' synchronize the occupation of Phase III-I to the middle-phase at Demirci. This synchronization is confirmed by the relative chronology of the site of Küllioba, situated South of Demirci, especially the Küllioba Phases 2 and 1. For the relative dating of Küllioba the presence of the 'imitation twisted handles' together with 'cog wheels' – not found at Hacılartepe – is synchronized to the Demirci Phases F3-G (Efe and Ay 2000, 24).

Other pottery characteristics do not provide a further chronological insight more than the existence of a general correspondence to EBA I-II traditions. Forms of grips such as crescent shaped grips and lug-handles are present through all phases of Demirci and do not give a chronological indication for the region of Eskişehir. T. Efe (1988, 90) compares the use of lugs at Demirci with Trojan and Yortan traditions. The lug-handle at Hacılartepe also resembles Troy I-types placed on rim-bowls (cf. Blegen et al. 1950ii, 261). Similar lug-handles were collected from the field survey of D. French at the site of Pazareyeri I, situated between the regions of Inegöl and Eskişehir (French 1967, 80, fig. 17, nr. 18-21). Other general features of the Northwestern Anatolian EBA I-II are adjustments of pouring spouts, the use of the 'dowelled-joint technique', broken fragments of feet – as part of tripods (e.g. cooking pots) – decoration techniques such as 'shallow fluting' and the application of knobs. Decoration by shallow fluting is known from the survey material collected by French in the region of Yenişehir from the sites of Çardak and Köprühisar (French 1967, fig. 6, nr. 42,44; fig. 15, nr. 2,3).

The intact footed bowl with a windowed pedestal base falls within a tradition known from the beginning of the EBA. In general the footed bowl is comparable to the Troy I-type Blegen A13 (Blegen et al. 1950ii, 262, nr. 27). Since the beginning of the EBA, the use of footed bowls is known within a wide area of Northwestern Anatolia (e.g. Poliochni Nero, Küllioba and Kaklık Mevkii; Efe and Ay 2000, 31). The footed bowl as well as the 'Tiergefäß' or 'bird vase' may be seen in connection with a drinking-bout held during special occasions. Examples of both types of drinking and pouring vessels are known from settlement as well as cemetery contexts.¹³

The terracotta figurines and decorated spindle-whorls from Hacılartepe resemble the EBA I-II traditions (fig. 9:6-11). The find of an animal figurine (representing an ox?) and the stylistic expression of the eyes on the head (broken off) of a human figurine fit within the spectrum of figurines excavated at Demirci (Obladen-Kauder and Baykal-Seeher 1996, T. 129, 133). The types of decoration applied on the spindle-whorls refer to the general EBA decorations.¹⁴ Instead of frequently found double-conical whorls, the Hacılartepe ones are merely conical in shape and do not show a central depression. This

¹³ E.g. Emporio Phase IV: Hood 1981, fig. 177; Poliochni Azzurro: Bernabò-Brea 1964, T. XLIII; Demirci Phase F3G: Seeher 1987, T. 55, nr. 15; Yortan: Kâmil 1982, fig. 72-73).

¹⁴ Demirci: Obladen-Kauder/Baykal-Seeher 1996, 229, Abb. 159. Sariket: Seeher 2000, Abb. 19, Grab 57. Küçükhöyük: Gürkan/Seeher 1991, Abb. 24,25.

may be an indication for an earlier date during the EBA II-period,¹⁵ but a greater collection would be needed to establish a relative chronology through the typology of terracotta objects.

In Phase IV bowl rims resembling a 'rolled rim' can be compared to Kumtepe B and later dated ceramics of Troy I-early (Sperling 1976; Korfmann et al. 1995; Blegen et al. 1950i, 254). The inward-bent bowl rims to more S-shaped bowl rims of Phase IV somewhat resemble bowl rims from the transition period of the Late Chalcolithic to the EBA I.¹⁶ The geometric patterns on bowl-types are comparable with bowl rims from the survey material of D. French collected at the site of Çardak in the Yenışehir plain (French 1967, fig. 69). Some pottery fragments with (broken) handles having a large loop may also refer to a tradition starting with the EBA I (known from Poliochni Nero, Küllüoba and Kaklık Mevkii).

Pottery style 2, which is present in the lowermost Layer 7, may be placed within the EBA I tradition, while the pottery from later phases can be synchronized with the EBA II period of Northwest Anatolia.

Later EBA III Material

The disturbed topsoil and some refuse pits dug from above Layer 1 yielded wheel-turned pottery of the Inegöl-Grey type. The best example is a wheel-turned bottle with a perforated outflaring rim and two lug-handles on the belly (fig. 9:12). This 'wing-handled cup' can be compared with EBA III contexts (e.g. parallel to the Yortan Class C pottery: Kâmil 1982, fig. 79, nr. 270). Its somewhat archaic shape resembles handmade bottles from the Demirci Phases L-M (Efe 1988, T. 35, nr. 3) and from the cemeteries at Sariket, Yortan and Ilıpınar (Seeher 2000, Abb. 18, Grab 18; Kâmil 1982, fig. 25-26).

The material from the refuse pits is contemporary with the EBA III refuse pits discovered in the Chalcolithic deposits at Ilıpınar, which were filled with stones, animal bones and ceramic sherds (Thissen 1995, 93, 107). These refuse pits can be dated to the second half of the EBA III-period corresponding to the last quarter of the 3rd millennium BC with help of the Inegöl-Grey pottery sherds.

French also collected some sherds of 'Yenışehir Black Topped and Burnished Ware' from the topsoil of Hacılar-tepe (French 1967, 59). The investigated material from the refuse pits was too fragmented to allow recognition of this ware type. Black Topped Ware was also found in similar refuse pits at Ilıpınar and refers to activities on this mound that took place in the early years of the EBA III-period. Other pottery fragments picked up out of context, like two bowl rims with a pattern-burnished or painted cross-band motive, a twisted handle and a body fragment with an embossed decoration, may also belong to that later time period.

¹⁵ According to the dating of the cemetery of Sariket by Seeher (1991, 114/2000, 60).

¹⁶ Some resemblance is seen with the 'Kehlrandschalen' of Beycesultan LC 4 and Demirci Ware F (Lloyd and Mellaart 1962, fig. P. 10; Seeher 1987, T. 25).

Table 1: Relative chronology of Hacılartepi

Pottery style III	Topsoil and refuse pits	EBA III	Inegöl-Grey Wares
Pottery style I	Layer 6-1 (Phase III-I pottery)	EBA II	Demirci Middle-Phase (G, H)
Pottery style II	Layer 7	EBA I	Early Troy I/EBA I settlements

Relation to the EBA Cemetery at Ilıpınar

The EBA cemetery of Ilıpınar is of some importance, because the people of that hamlet were most likely the users of the cemetery ground. In the Ilıpınar-campaigns of 1996 and 1998 at the western slope 14 graves and 19 individuals were investigated.¹⁷ These investigations are discussed by J. Roodenberg (2003, 351 ff.) and S. Alpaslan-Roodenberg (2002). The final and 15th campaign of 2002 yielded another 9 graves directly South of the already excavated section of the cemetery. Most graves consisted of a large pithos with its opening to the South which was closed with stone slabs. The deceased were buried in Hocker-position inside the pithos with their head near the opening. Sometime bodies of juveniles had been buried on pithos-sherds. Next to three graves of juveniles the skeleton of a dog (or only the head) was buried, probably as part of the funerary rites (Roodenberg 2003, 300).

As gifts funerary pots were frequently found in the pithos graves, and to a lesser extent copper or bronze needles, one bone needle, a stone bead, a stone axe and a stone mace-head (fig. 10). The needles are comparable to the different types of needles as found at the cemeteries of Sarıket and Küçükhöyük (Secher 2000, 58; Gürkan and Secher 1991, Abb. 22). From the 23 investigated graves, 16 contained one or more pots, mostly jugs. The jugs are quite similar to the ones at Hacılartepi with some modifications such as a cutaway-spout and a more backward-leaning neck, known from the 2002 campaign. The most eye-catching pottery gift is a small bottle with a geometric pattern originally white-filled, which had two lug-handles on the belly and a (broken) out-flaring rim (fig. 10:8). A larger version of this bottle, a nicely decorated pot with a tripod and two lug-handles on the upper part of the belly, was found during the last campaign of 2002 (fig. 10:9). These bottles and jugs recall the funerary gifts from the cemeteries of Yortan (Balıkesir region), Sarıket and Küçükhöyük (Eskişehir region). They do not differ from the usual assemblage of funerary gifts known from western Anatolia (Roodenberg 2003, 303 ff.). The pot with a tripod is very similar to funerary pots known from the Balıkesir region ('Yortan tradition': Kâmil 1982, fig. 25-26). Similar pot types (but without the tripod) were present in the middle phase at Demirci Höyük (e.g. Efe 1988, T. 25; Phase K).

The chronological position of the cemetery at Ilıpınar can be related on typological grounds to the end of EBA I and the beginning of EBA II. The jug type with a cutaway spout can be linked to Demirci Phase F2F3 and more specifically Phase K

¹⁷ Already a millennium or somewhat earlier the slope of the hüyük was used as an extramural graveyard. In later periods (MBA and the Byzantine era) funerary practices were also carried out at Ilıpınar (Roodenberg 2001).

(Gürkan and Seeher 1991, 84). The shape of the burial-pithoi (Halspithoi) refers to the Middle and possibly Late Phase of Demirci.

In the closing campaign of Ilıpınar (2002) some jugs with more backward-leaning necks were picked up from the burials. This eventually that the cemetery had been suggests (re)used at a slightly later period of time.

Radiocarbon Dates

Ten radiocarbon dates are available, which were taken from the four different building phases (fig. 11). All of the dates, except for the one from carbonized seeds, are taken from charcoal samples. The dates mainly fall in the range of 4265 ± 35 to 4115 ± 35 BP. An older date of 4490 ± 50 BP comes from a charcoal sample of the basal occupation of Layer 7 (Phase IV). Another sample (4250 ± 70 BP) taken from the same layer is consistent with the range of dates. Hence the older date may be the outcome of dating 'old wood'. All samples range between 2900 and 2575 cal. BC on the 1-sigma scale with exclusion of the 'old wood' one.¹⁸ The short-lived sample from carbonized seeds (Layer 6, Phase IV) provides a date range between 2866 and 2620 cal BC (1-sigma). This date range is comparable to the calibrated dates of Demirci Höyük (Weninger 1987) and Troy I (Korfmann and Kromer 1993).

Concluding Remarks

The sounding at Hacılartepe gives a first impression of a small hamlet consisting of rather light mud-and-wood constructions. Yet, it may be that more solid and voluminous buildings were located near the surrounding wall. The investigated building-phases probably did not last longer than 20 or 30 years each. The period of occupation, which may have lasted 150-200 years, shows a uniform pottery style with regard to Phases III-I and Layer 6 of Phase IV, while a slightly different style marks Layer 7, the basal occupation level.

When the architectural features, pottery characteristics, and the cemetery of Ilıpınar are taken into account, one can only conclude that the occupation ended before the late phases of Demirci and before the late phase of Troy I, this means before approx. 2600 cal. BC. Hacılartepe therefore was probably inhabited from 2800/2750 to 2650/2600 cal. BC, which corresponds with the end of EBA I and the beginning of EBA II.

¹⁸ On the 2-sigma scale between 2925 and 2500 cal. BC.

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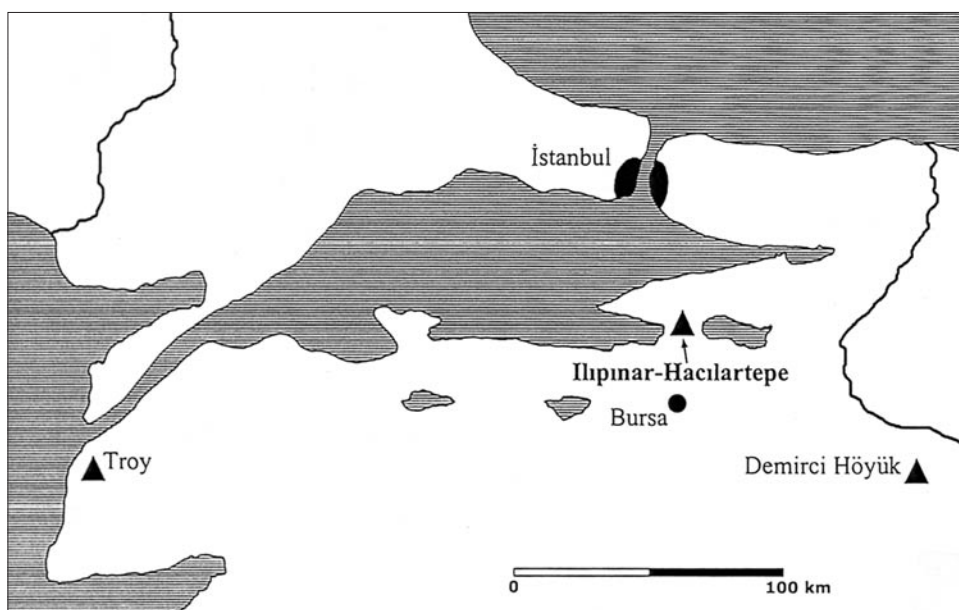


Fig. 1A. Regional Map

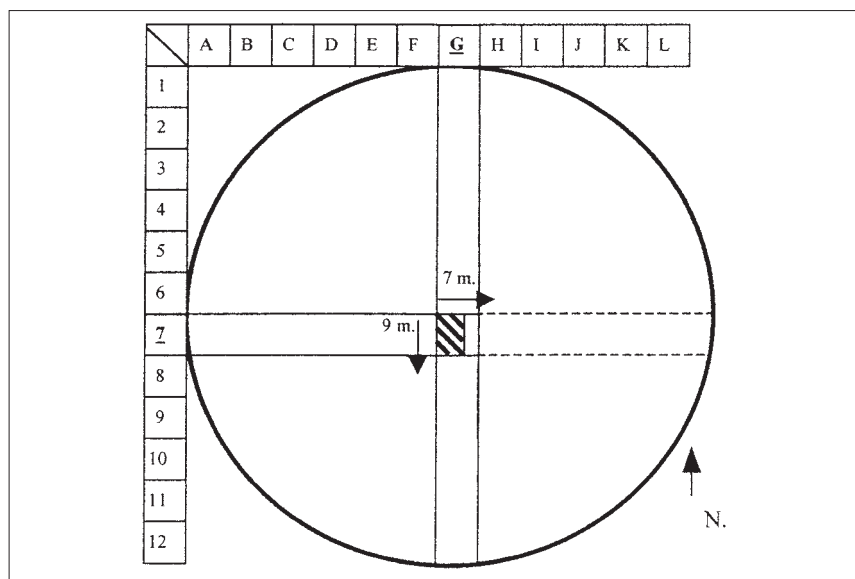


Fig. 1B. Hacilar-tepe with position of trench G7.

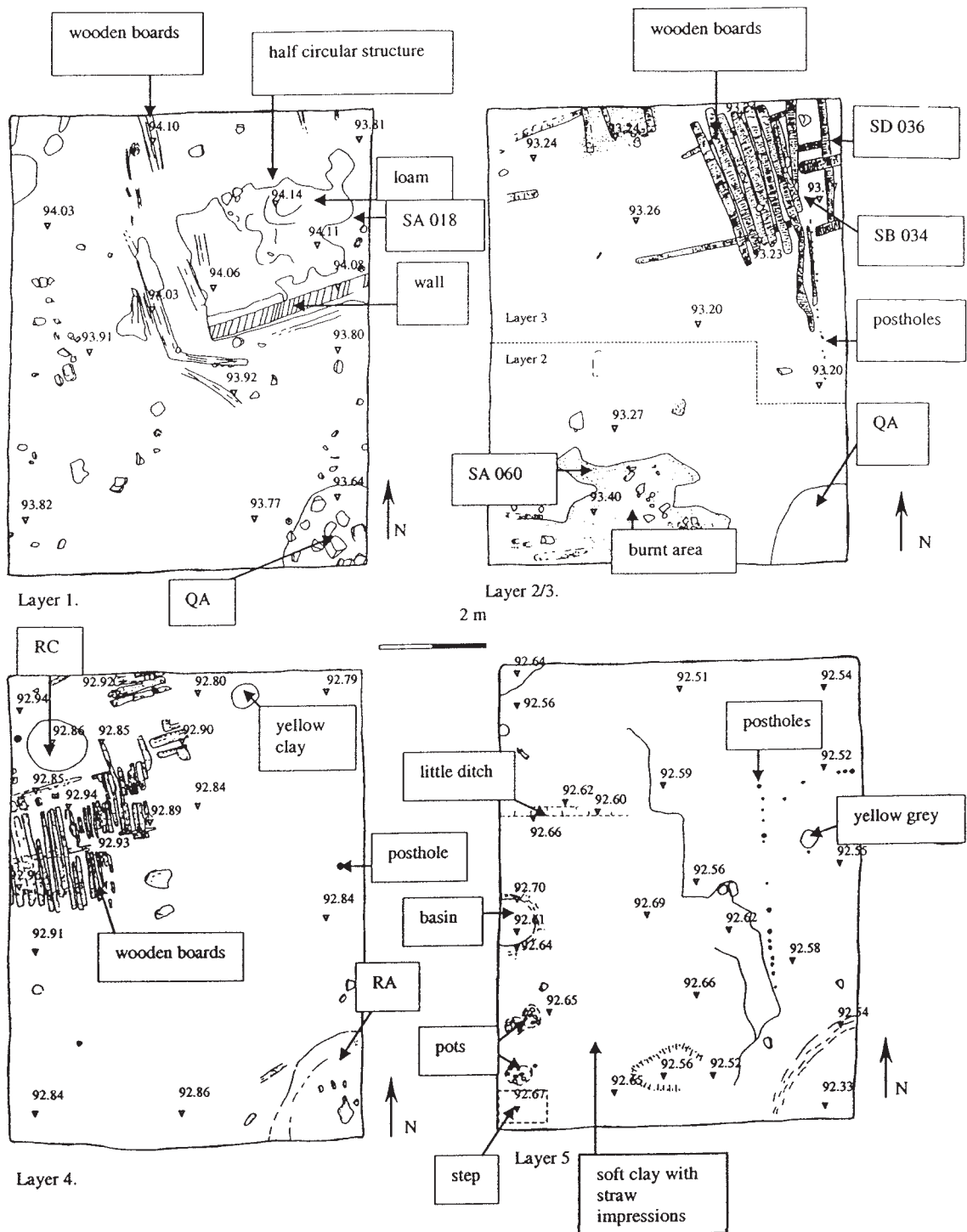


Fig. 2. Architectural layers 1-5. Trench G7.

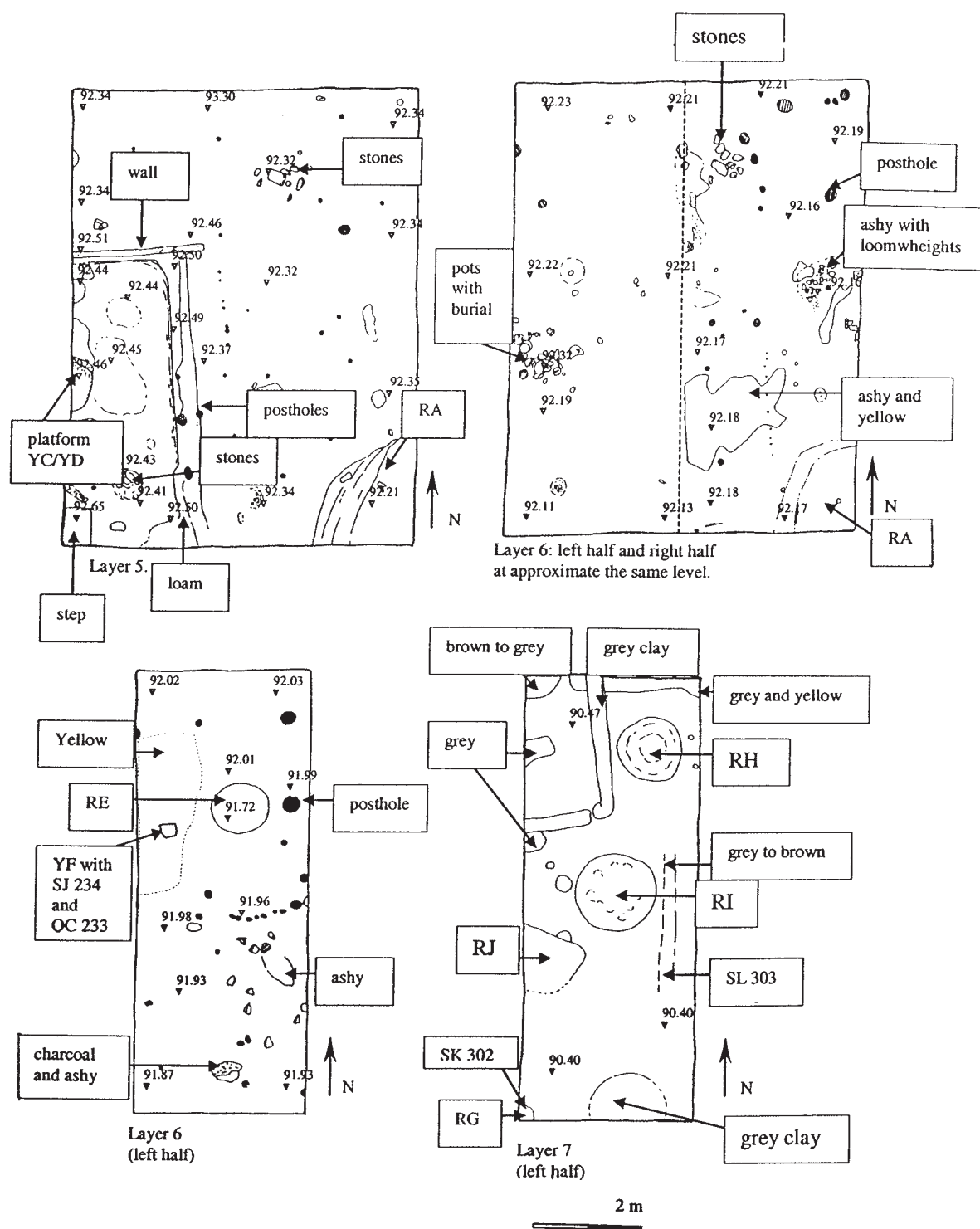


Fig. 3. Architectural layers 5-7. Trench G7.

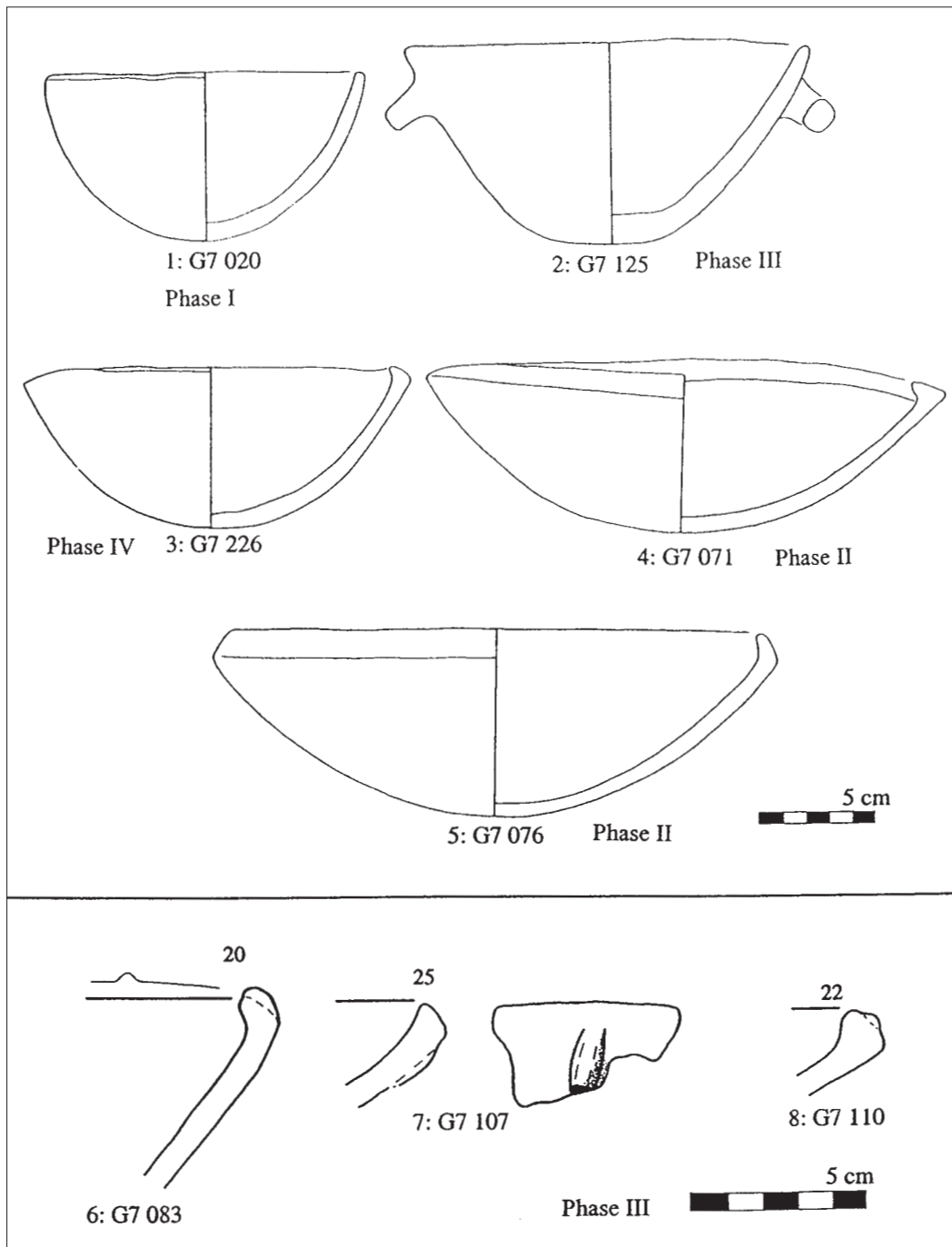


Fig. 4. Bowl-types.

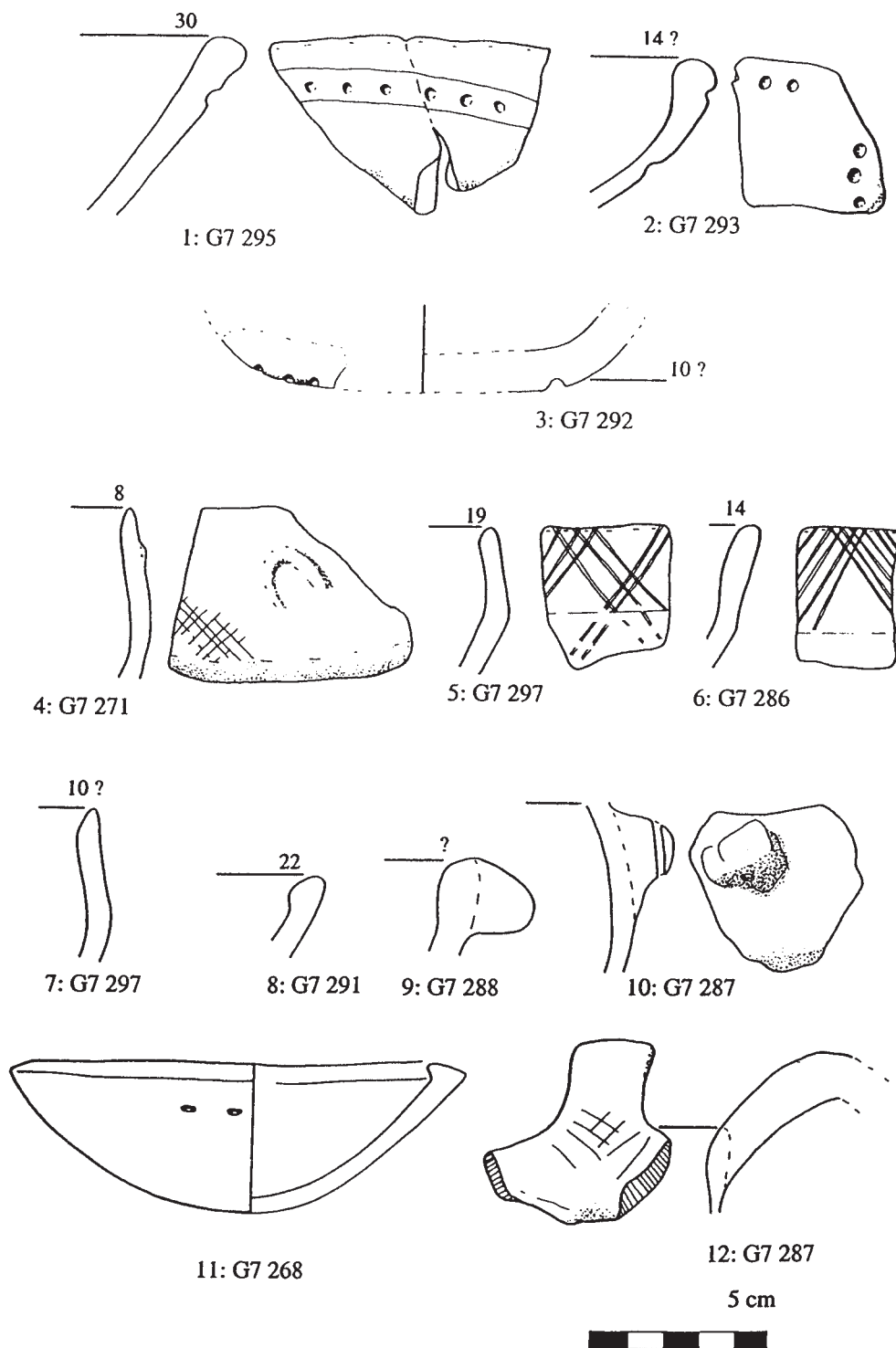


Fig. 5. Pottery of phase IV.

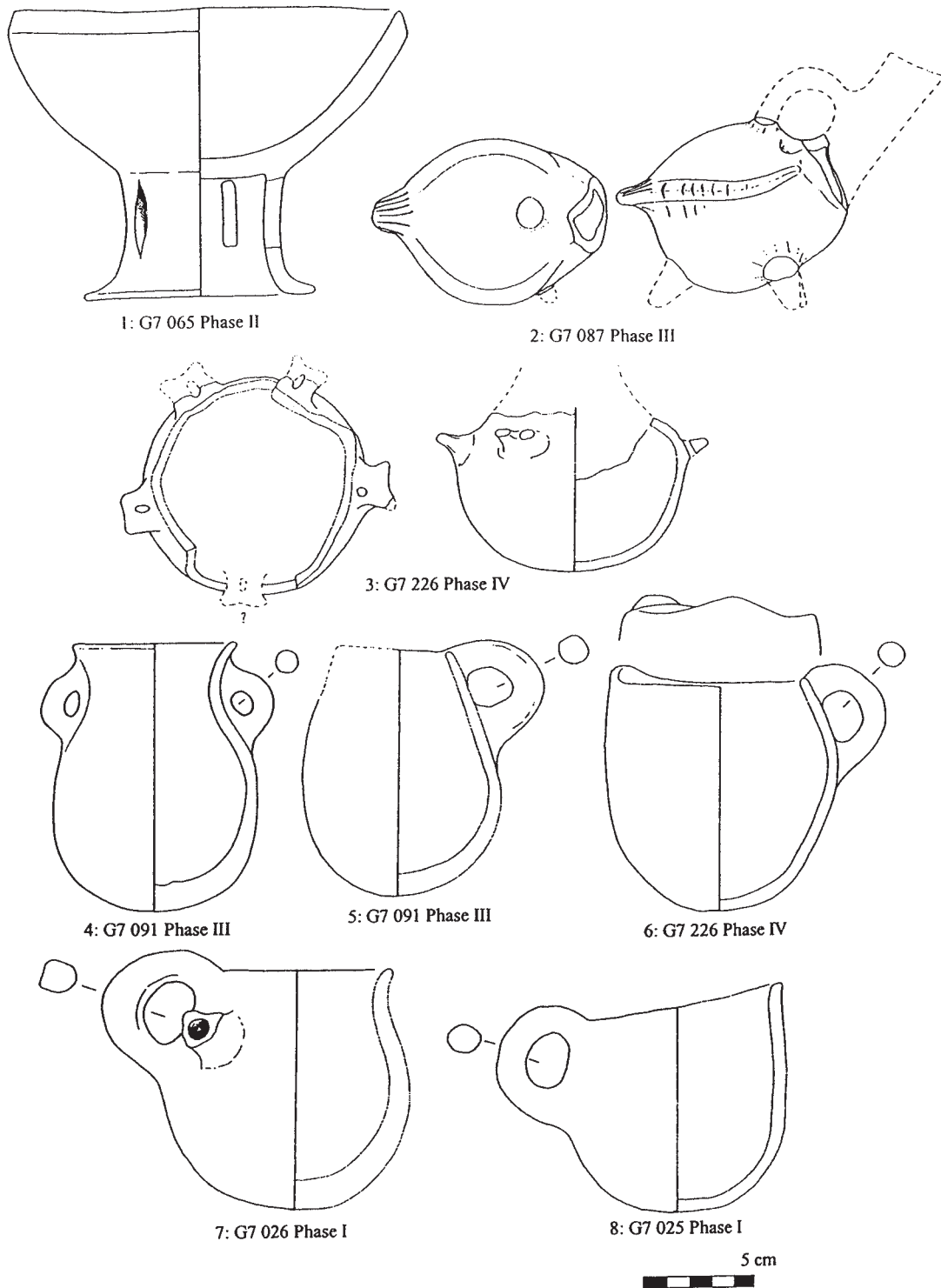


Fig. 6. Pottery phases I-IV (Layer 1-6).

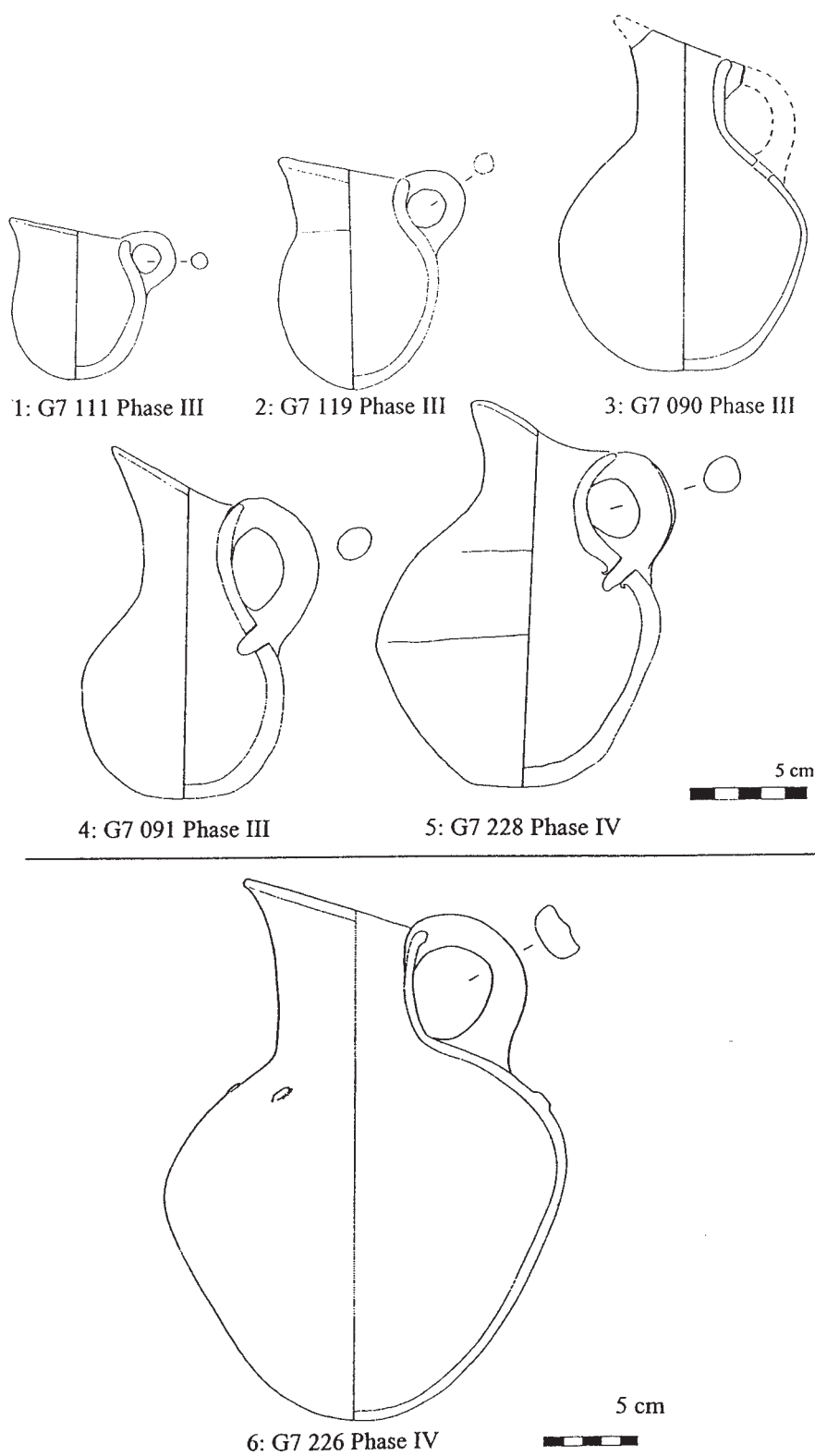


Fig. 7. Jugs. Phases III-IV.

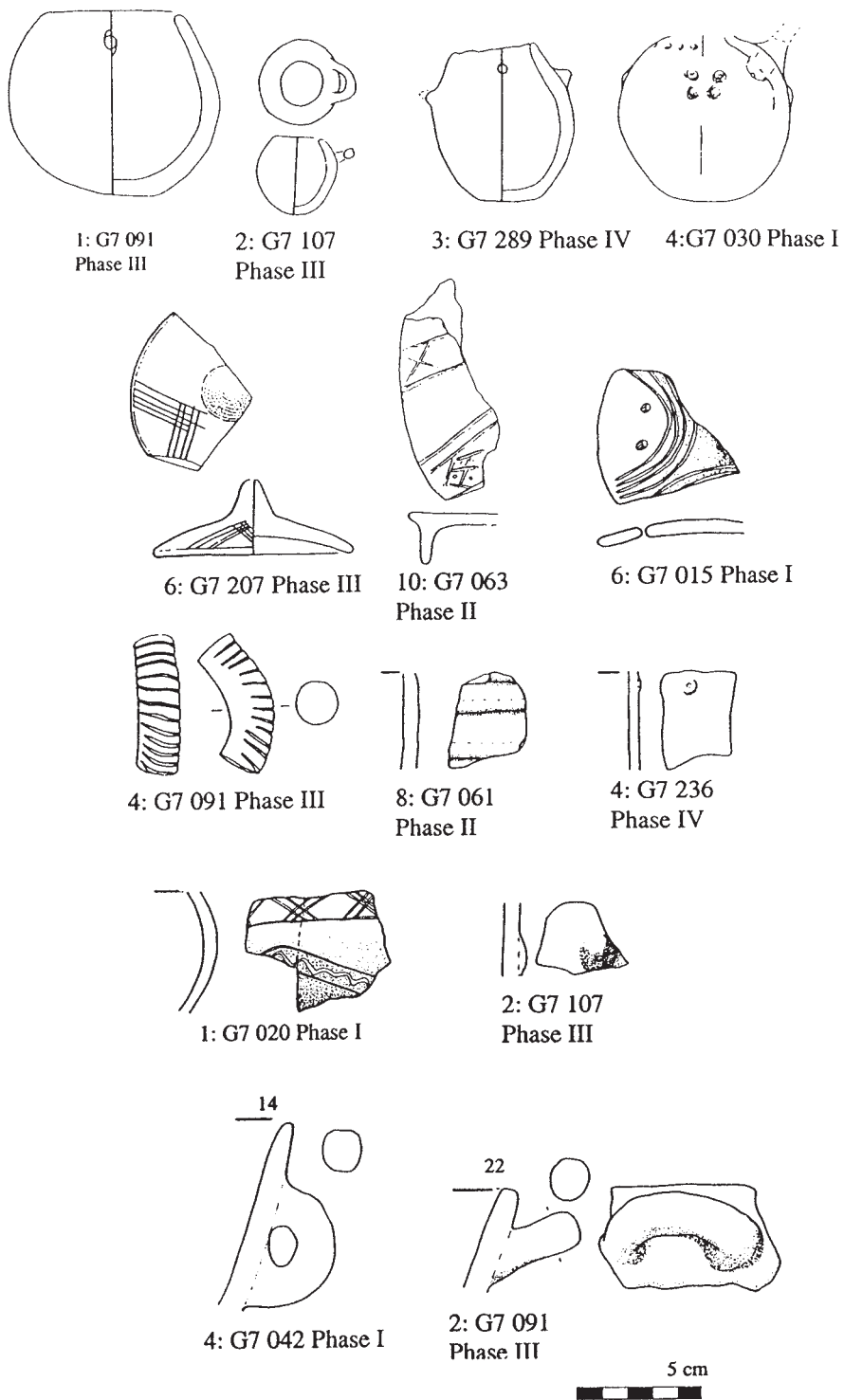


Fig. 8. Pottery phases I-IV.

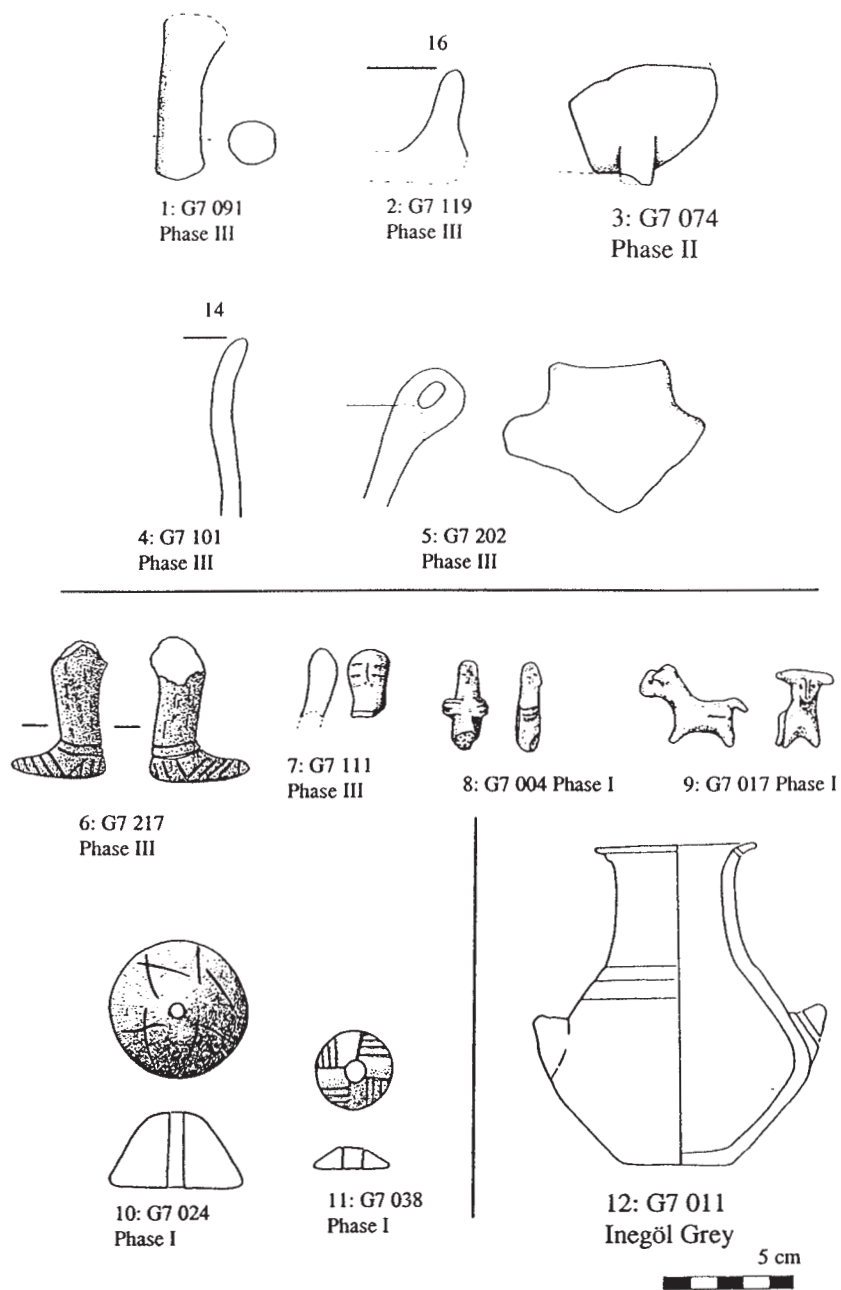


Fig. 9. Pottery and terracotta phases I-III.

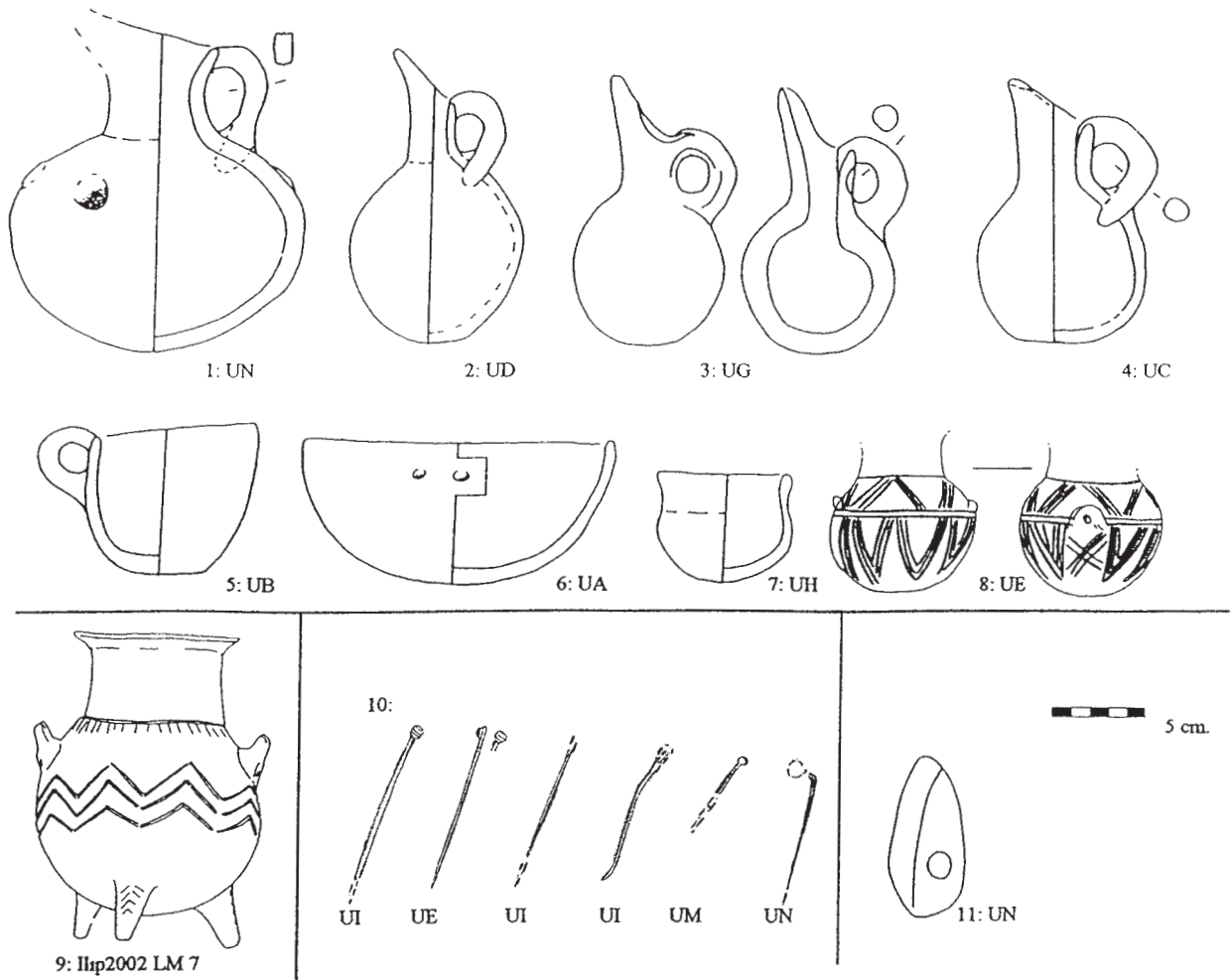


Fig. 10. Grave gifts from the EBA cemetery at Ilıpınar. UA-UN, burial codes.
Ilıp2002 LM7 from burial UF (campaign 2002).

Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

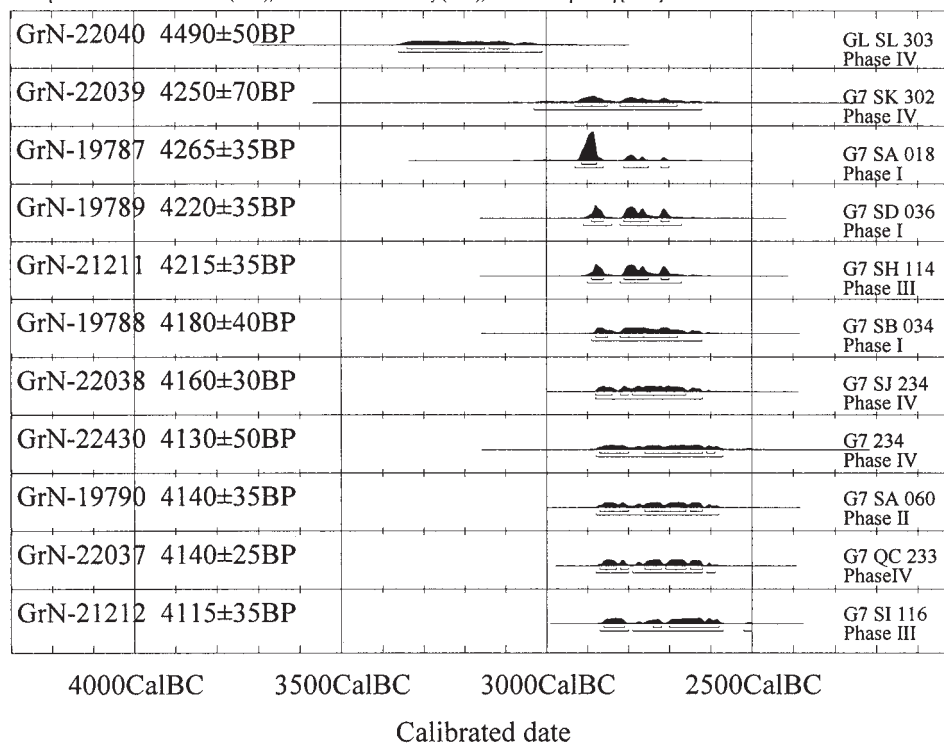


Fig. 11. Dates Cal. BC and BP Hacilartepe trench G7.
Charred seed sample = GrN-22037: G7 QC 233, Phase IV

TELL KURDU EXCAVATIONS 2001

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INTRODUCTION

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This article describes the results of the 2001 excavations at Tell Kurdu and presents preliminary studies on the finds categories. The Tell Kurdu Project is part of the Oriental Institute's Amuq Valley Regional Project (AVRP). Since 1995, the AVRP has been conducting a long-term program of excavations in the Amuq Valley (south-eastern Turkey) with the aim of investigating regional settlement dynamics over time. Several Oriental Institute led seasons of excavation have been conducted at the prehistoric mound of Tell Kurdu since 1996 (Edens and Yener 2000a; Yener 2000; Yener et al. 2000b). The year 2001 marked the beginning of a new stage of research when AVRP Director K.A. Yener handed the responsibility of the excavations to the first two authors of this article.²

Tell Kurdu is a ca. 15-hectare mound located in the center of the Amuq Valley in the province of Hatay (fig. 1). Brief excavations conducted at the site in the 1930s under the direction of Robert J. Braidwood determined that the site was occupied in Amuq Phases C-E, roughly contemporaneous with the Halaf and Ubaid (6-5th millennium BC) cultures of Northern Mesopotamia (Braidwood and Braidwood 1960). The excavations by the Braidwoods and recent intra-site surface surveys indicate that Amuq C remains occur over the entire 15 ha of the mound (although it has not yet been established whether this whole area was occupied simultaneously). The subsequent 5-7 ha Amuq E settlement was concentrated on the southern part of the site. The 1996, 1998 and 1999 seasons focused on the Amuq E levels of the higher south mound although soundings and trenches were placed in the northern mound as well, for initial investigations of the Amuq C and D levels (Edens and Yener 2000a; Yener 2000; Yener et al. 2000b). The work conducted in

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2001 specifically focused on the highest preserved Amuq C or Halaf-related level in the northern part of the mound. A major aim was to uncover a broad single-phase horizontal exposure.

Tell Kurdu is not only by far the largest prehistoric settlement in the Amuq Valley, but it is also considerably larger than most Halaf settlements, as Halaf or Halaf-related sites larger than 10 ha are rare (Algaze et al. 1991:195; Bernbeck et al. 1999:110, Campbell et al. 1999, Matthews 2000:108). Halaf-period archaeology has long focused on documenting and explaining the similarities in material culture over Northern Mesopotamia and South-eastern Anatolia. Emphasis has been on inter-regional comparative studies of ceramics and architectural styles (Akkermans 1993; Campbell 1992; Matthews 2000; Watkins and Campbell 1987; Watson 1983). Although a supra-regional framework can address important issues on the continuity of distinctive cultural characteristics over space and time, it leaves a void in the local perspective in which settlements and communities are understood in their specific cultural, geographical, and ecological contexts. Single-phase exposures (fig. 2) such as uncovered in the Amuq C settlement at Tell Kurdu are a prerequisite for addressing questions from a local perspective. To investigate intra-site variability and to infer the spatial and contextual nature of the exposed structures, the analyses conducted include a series of microarchaeological methods that complement traditional artifact studies.

At this stage, it is too early to present a full synthesis of the findings. This report includes a discussion of the architecture and general layout, the results of a series of radiocarbon dates, and summaries of ongoing analyses on ceramics, lithics, fauna, shell, flora, and burials as well as reports on microarchaeological and petrographic studies and DNA analysis of the human remains. The emphasis lies on the single occupation phase to which most excavated contexts belong. Several human burials dug into the main occupation level in later Amuq C and E phases are included in the section on the human burials. A later circa 1 meter wide ditch feature and a number of intrusive pits of Amuq C and D date are not further discussed in this report (fig. 3).

OVERALL PLAN AND STRUCTURES

Rana Özbal and Fokke Gerritsen

General observations

The main objective of the 2001 season at Tell Kurdu was to expand the Amuq C trenches (Tr 12 and 16) exposed in 1999 in the northern part of the site (fig. 1; see Edens and Yener 2000b: 43-46).³ This part of the site suffered in the 1970s from bulldozer

³ The season ran from 18 July-7 September 2001 with permission from the Turkish Ministry of Culture. In addition to AVRP director Aslıhan Yener and Tell Kurdu co-project directors Rana Özbal and Fokke Gerritsen, the 2001 team included Sarah Kiehl Costello, Gülçin Çakmakçı, Benjamin Diebold, Özlem Doğan, Mücella Erdalkıran, Elizabeth Healey, Kathryn Keith, Hadi Özbal, Sabrina Sholts, Yukiko Tonoike, and Aysen Uygur. The 2002 and 2003 study seasons included members of the excavation staff listed above as well as Ahmet Ünal, and Emre Kuruçayırılı. The government representatives for the season were Ünal Demirel of the Antalya and Hakkı Alhan of the Gaziantep museums. In addition, the team included 17 workers from the various villages surrounding the site. We thank the

leveling to make the mound suitable for irrigation agriculture. Because of the leveling, intact architectural remains lie very close beneath the surface of the northern part of the mound. The topmost 20 to 30 cm is destroyed by plowing, but the damage beneath the plow zone is limited to occasional plow scars and shallow irrigation trenches. Estimates about the number and duration of occupation phases that were lost are difficult to give, although intrusive Amuq D pits and Amuq E burials indicate that by that phase the nature of occupation of this part of the mound had changed.

Excavations had begun in 1999 in the center of the northern mound to explore subsurface linear features revealed by a 1998 magnetometry survey (Edens and Yener 2000a: 200). Although the 1999 excavations suggested that these features represented the pisé walls of a large rectangular building, the 2001 season made it clear that this interpretation was erroneous. The faulty reasoning was in part due to the limited size of the 1999 exposure. In 2001, the total excavated area was expanded to 800 m² in eight adjacent trenches of 9.5 x 9.5 m separated by 50 cm balks (fig. 2). This clarified the nature of the area: the greenish gray deposits formerly interpreted as pisé walls were actually alleys between densely packed mudbrick architecture.

The exposed structures are part of a neighborhood situated along the northern edges of the settlement (fig. 1). As a result of pre-existing mounding, the architecture had been built on a gentle slope going down towards the north and northeast. The parts of the neighborhood higher up on the slope were understandably more seriously affected by the leveling. Walls and deposits in the southern part of Tr 21 were preserved only to a height of a few centimeters, and earlier deposits began to appear underneath. In contrast, walls stood up to 75 cm in the northeastern part of Tr 25.

The southern part of Tr 24 did not yield coherent architectural remains (fig. 3), probably also due to the leveling. Wall remains and surfaces in this trench are provisionally interpreted as the remains from a poorly preserved occupation phase post-dating the structures in the other trenches. Despite of the uneven preservation, the other seven trenches yielded a coherent settlement plan (fig. 2), which on stratigraphic grounds appears to represent a single phase of occupation with only limited intra-phase modifications (but see the section on absolute chronology below). Floor levels were reached throughout and materials were systematically collected for studies of material culture, zooarchaeology, and paleobotany as well as for fine-grained micro activity-area analyses. Deposits from all interior spaces and many exterior spaces were 100% dry screened with a 5 mm mesh.

Braidwood's exploratory work on the northern part of the mound revealed a build-up of at least three meters of Amuq C deposits (Braidwood and Braidwood 1960:18). The level exposed in 1999 and 2001 must belong to one of the highest in this sequence but it is currently impossible to determine at which elevation our excavations took place in

workmen for their hard work and are most grateful to the excavation and analysis teams for their dedication. Many thanks also go to Hadi Özbal for his help with administrative and logistical aspects of the project as well as for his efforts with the soil collection and analyses. We are very thankful to Olivier Nieuwenhuyse and Chiara Cavallo for useful comments and discussions on Halafian ceramics and fauna respectively. We would finally like to express our gratitude to our cooperative governmental representatives as well as the Rector of Mustafa Kemal University, Prof. Dr. Haluk İpek, and Dean Prof. Dr. Keriman Günaydın for providing us with lab space and housing.

relation to the Amuq C deposits that existed in Braidwood's time. It is certain, however, that the earliest Amuq C phase has not yet been reached. Not only is the exposed level situated on top of another three to four meters of archaeological deposits, but there are also no indications of anything reminiscent of Amuq B characteristics among the pottery assemblage. This is an important observation with regard to the absolute dating of the settlement of the Amuq C Phase, and the temporal placement of the Amuq C period in relation to other Halaf and Late Neolithic/Chalcolithic sites. These issues are further discussed in the section on absolute chronology below.

Streets and alleys

A notable feature of the exposed settlement at Tell Kurdu is the streets or alleys (fig. 2). A number of Chalcolithic settlements in Anatolia, for example, have streets or "roads" (Caneva 2003; Gülçur 2003:fig.2-3; Öztan 2002:56), while Halaf settlements to the east, where structures tend to be somewhat more dispersed, usually require no streets (Akkermans 1993:fig.3: 12; Pollock et al. 2001:fig.2; von Wickede and Herboldt 1988:fig.2; Watkins 1987:227; but cf. Merpert and Munchaev 1984:pl.2). The greenish-gray color of the street deposits at Tell Kurdu distinguishes them clearly from the mudbrick architecture.⁴ Excavations removed only the top 5 cm of the streets throughout, although it is clear from pit sections that they are comprised of series of darker and lighter gray to greenish gray lenses, which continue for at least another 40 cm below. In parts, these lenses contain high densities of artifactual materials most likely representing domestic refuse. The "main" street, which runs down in a SW-NE orientation from Tr 21 through Tr 20, Tr 22 and Tr 26 (S68, S72, S73, S74), has an average width of 2 m. This is the most densely refuse-filled area of the settlement. The garbage is densest in the northern end of Tr 21 (S67, S68) and especially in Tr 20 (S72) but the side alley leading into Tr 23 (S69, S70, S71) is also relatively dense in refuse. A row of mudbricks was found at the intersection of this alley with the main street. Since the street deposits around the wall were not excavated it could not be determined whether this was simply a one course high barrier or a wall that was erected at some point to prevent access between these two areas. The remaining alleys include one that leads into Tr 16 (S67, S66, S63) before it forks into S64 and S65 in Tr 12, and S75 in Tr 26 which branches north from S74. These alleyways are not only much cleaner than the main street but they are also much narrower suggesting that they were subjected to less traffic.

Although clearly not a thoroughway street, a final area that may have served at least as a "dead-end street" is R46 in Tr 25. The upper levels of R46 were not only nearly as densely filled with garbage as S69 and S70, but also yielded large patches of the greenish-

⁴ As a pilot study, six soil samples were sent to Boğaziçi University Archaeometry Laboratory to be analyzed by X-Ray Diffraction (XRD) for mineralogical testing. As expected, all six samples including an offsite comparative sample were high in quartz (silicon dioxide) and calcite (CaCO₃). With the exception of the offsite sample, lizardite, a member of the serpentine family, appeared as a minor element in all samples. Currently, it cannot be ascertained whether the quantity of lizardite from street samples is significantly higher than those collected from interior room floors. It must be noted nonetheless, that this mineral is usually pale greenish-gray in color, which is precisely the color of the streets. Further XRD analyses as well as elemental tests are necessary before definitive conclusions can be made.

gray soil characteristic of streets in other areas. It is possible that it served a passageway into area R29, as the presence of a wall between 29 and R46 could not be ascertained. A significant attribute of the streets is that they define distinct areas of the settlement. In the next section, these areas will be discussed separately.

Area A

Streets S64 and S65 define Area A in Tr 12 as distinct compound (fig. 4A). Analysis of the architecture and recovered materials indicates that this area was domestic. The entrance to the compound is through R10. This space lacks a southern wall but two postholes at either side of the entrance may have supported a gate of some sort. The first room one would have reached from R10 is R08. The doorway of this room was distinctly flanked by mudbricks on each side. Entrance into the room required stepping down approximately 10 cm onto compacted room surface 12:90, of which only the eastern half was preserved.

Another possible door from R10 could have been supported by posthole in the southeast corner of room R07. The presence of posthole here suggests that the wall between R07 and R10 was a raised threshold and not an actual dividing wall. The likelihood of free access between these two rooms was also confirmed by microartifact analyses (see microartifact section below). There is reason to believe that R07 is an outdoor courtyard area. The surface here was more uneven than interior floors though evidence suggests it was a living surface. In a late use phase, several pits/hearths were set into the courtyard floor (Edens and Yener 2000b: 45-46). The courtyard floor reached in 2001 had a bin placed along both its eastern and western walls. The western bin is of particular importance because it yielded an *in situ* local painted collared-rim bowl (TK 6447, fig. 8:4) placed upside down over a large fragment of a grinding stone. This courtyard was an activity area where chipped stone knapping took place, among other activities (see microartifact section below and Özbal in press).

Immediately south of the western bin, a doorway leads into R05. The white somewhat patchy plastered floor of the room lies approximately 30 cm beneath the earliest excavated level of the courtyard area. A worn and rounded mudbrick step facilitates entry. To the left of the entrance is a large oven with a 1.5 m diameter, preserved to a height of 30 cm. The floor and the interior of the walls of this oven are fire hardened. Archaeobotanical analyses from deposits within the oven indicate the presence of wheat (*Triticum* sp.), barley (*Hordeum vulgare*) and legumes (see archaeobotanical section in this report). The remainder of the area of this room measures 2 x 1.75 m. Two mudbrick work platforms or workbenches were found against the western and northern walls of this room respectively. A 40 x 30 cm grinding stone with rounded bottom and flat top lay on the northern platform. To the right of this platform was a thin raised bin, which had been covered over with the same white plaster as the floors. The center of the bin contained two large fragments of an open vessel balanced on two cobbles set into the floor. The room yielded a concentration of artifacts in the area between and in front of the two platforms. A complete but smashed vessel was located in the center of the room (TK 8183, fig. 8:6). The objects found on the floor and within the 5 cm deposits above

include: numerous grinding stones of various sizes (e.g. TK 8380, fig. 15:11), a large round disk perhaps a pot stand or pot lid, worked river pebbles, a fragment of pierced bone, four tokens (two disc shaped, one spherical, one oval), one complete and one fragmentary spindle whorl, a sherd roundel, and six sling pellets as well as large quantities of ceramics, obsidian and flint (see section on lithics in this report for more detail on the chipped stone from this room). These objects clearly suggest that food preparation and other domestic activities took place in this room.

Another room bordering courtyard R07 is R06. This room was discovered during the 1999 season and the highest preserved floor (12:28) was excavated at that time. This floor had impressions of a central circular reed mat (Edens and Yener 2000b: 45). The eastern end of the surface was cut by burial 12:14. In 2001, several underlying floors and deposits were excavated such as hard plaster surface 12:52, soft fill layer 12:77, and white flaky plaster surface 12:80 respectively. The earliest floor reached to date (12:80) was also cut by a burial 12:81, presumably cut from floor 12:52. It is interesting that there were two burials cut into the various floors of this room. Measuring from the interior of the room, the walls were preserved to a height of 20-30 cm, but other floors presumably lie beneath. So far, there has been no indication of a doorway, bringing up the possibility of a raised threshold. The 2001 excavations in this room yielded considerably fewer artifacts than in room R05. Among other artifacts the room yielded a large pot stand (TK 7387, fig. 15:12) and one (possibly rodent carried) seal (TK 7944, fig. 13:11).

Among the other rooms of this compound, neither R01 nor R02 could be adequately excavated due to the trench balks, while no floors were reached in either R04 or R09, making it difficult to understand their nature.

Area B

Excavations in Tr 16 did not continue in 2001, as the 1999 season had already reached the earliest floors in R13 and R14, and time did not permit further investigations in R15 and R16 (for R13-R16 see Edens and Yener 2000b: 44-45). Room R12 awaits to be understood in future seasons. The Area B excavations in 2001 focused on Tr 20, exposing the eastern halves of R17 and R24, and R25 (fig. 4b).

As described in the report on the 1999 season, R17 was an area with a series of wash deposits, sloping steeply northeastward (Edens and Yener 2000b: 46). The same sorts of fine-grained, well-compacted deposits with a small number of eroded artifacts continue in the eastern portion of R17. The wash layers in Tr 20 slope northwestwards forming a low depression between the two trenches. The lowest excavated parts of this depression are over 1.5 m beneath the top of the sloping layers. Further excavation is required to determine whether this slope represents the edge of the mounded settlement or a bounded courtyard filled with debris layers. Excavations in R17 in Tr 20 also yielded a possible fragment of a badly eroded wall. Several small pits cut the sloping wash layers.

Room 24 was partly excavated as 16:13 in 1999. Being 5.0 x 2.2 meters in size, it is among the largest rooms that our excavations thus far have uncovered. The 1999 excavations in Tr 16 uncovered a plastered circular feature in the southern corner and two nearby mudbrick workbenches (Edens and Yener 2000b: 45). Signs of burning on the

upper surface of the circular feature 16:15 suggest that it may have been an oven but this could never be ascertained because the center of the feature lies beneath the balk. The thick layer of plastering on its exterior wall sets this feature apart from the typical ovens excavated in other parts of the site. Wall 20:20 separates the room from street S72. Constructed with irregularly shaped bricks averaging 30-40 x 20 cm in size, this wall has several different widths; in the southernmost section it is only a single course wide while in the center and northern sections it widens to three and two courses respectively. A small bin containing relatively high quantities of cereals and legumes (see archaeobotanical report) is set along the interior face in the widest middle section of the wall.

In addition to its structural attributes, the wall yielded several noteworthy deposits and caches. A 40 x 60 cm interior niche (20:26) in the northern section of the wall included a large bovid horn core with the part of the skull still attached, a scapula possibly of a bovid, a rectangular stone block (150 x 80 x 100 mm in size) with naturally smooth sides, and a complete unused blade of green obsidian (68 x 11.5 x 1.8 mm in size, fig. 10:1) as well as several rim and base sherds (Özbal et al. 2003:fig. 4). It is likely that these items were sealed off in some way but this could not be determined with certainty. A single course of mudbricks continues behind the niche, while mudbricks directly underlying the deposit can also be recognized.

Between the central three-row section of wall 20:20 and the narrower one-row wide southernmost portion of this wall there is a 30-33 cm drop in elevation; the southern section lies nearly at the same elevation as the earliest excavated floor in this room. The relative thickness and height of the wall in the south suggests that it may have been a brick-lined threshold, although it could not have served as the main entrance into the room because circular feature 16:15 would have obstructed free passage. Interestingly, the doorway of adjacent room R25 is also blocked by an oven. An alternative entrance to this room could have been through niche 20:26, if this was actually a step. In this case, the objects within the niche must either have been covered or placed in the doorway during the final abandonment of the room. Other instances of horn cores beneath thresholds are reported from the 7-6th millennium BC site of Tell Aswad in the Balikh Valley of Syria (Mallowan 1946: 123-126, fig. 2, cf. Verhoeven 1999: 225).

Excavations directly above the "threshold" at the southern end of wall 20:20, yielded an interesting feature (20:21) and two associated deposits. The feature was columnar in shape, though wider at the top than at the bottom. Preserved to a height of 20-22 cm, it had a top diameter of 65 cm. The fill was green and quite similar to the street deposits but it was finer in consistency and contained few artifacts. We presume that the feature is the remaining fill of a no-longer-preserved basket. Wedged between basket 20:21 and circular feature 16:15 and resting against the western side of the basket were a cache of 34 sling pellets (e.g. fig. 15.8-10) and an antler of a fallow deer (*Dama mesopotamica*). About 40 cm south of this cache, in the narrow area between the two features a contemporaneous smaller cache of seven sling pellets and a horn core was found. Both caches lay on the only convincing floor of this room (20:43).

The small northern room R25 shares wall 20:18 with R24. The walls of the room are preserved to varying heights between 20 and 35 cm. The western wall does not meet

up with R24, leaving a space one could interpret as a doorway, if not for the fact that this entry is blocked by an oven. Only one use surface (20:60) was identified in this room. North of the room and close to the balk, part of an oven was excavated although it is not clear what structures the oven is associated with.

Area C

To the west of alley S68 two rooms of a single building were identified (fig. 2). This structure presumably continues in Tr 24 but was not reached there. At the time of occupation, the structures in Tr 21 were at a higher elevation than those in trenches to the north and east, as the mound appears to have sloped gently towards the north. Modern leveling of the mound surface for agriculture and the subsequent plowing therefore truncated the top of these walls most severely; mudbrick walls in this trench are preserved to a maximum height of only 5-7 cm, which is considerably less than in other trenches.

Although the outer faces of the structure in Area C were easy to recognize, as they were very different in color from the alleys, the inner walls were difficult to define and differentiate from the room deposits. The northern room R19 is surrounded by walls on three sides, but the presence of a back wall was never clearly established. It is possible that the northern wall had a doorway, facing alley S67, close to the balk. It could not be ascertained whether the walls of R18 are part of the same building. Adjacent room R20 is a large room with an entrance from alley S68. The circular oven located to the left, upon entering this room from the alley, was placed flush against the corner formed by the southwestern and southeastern walls of this structure. The oven, which may have had an opening towards the northeast, has a lining of burnt clay set into a packing of mudbricks placed on their side. No clear occupational surfaces were found in either of these two rooms.

Area D

Area D is bounded by streets S68 to the west and S69/S70/S71 to the north, and lies in Tr 21 and 23 (fig. 2). Preservation of the architecture in this area was poor, especially in the southern parts. As a result, the plan is not well understood. In the east, there are two partially excavated rooms R32 and 33, which each had a surface of compacted earth. It is unknown whether the base of the walls has been reached. Adjacent to R32 lies what appears to be an open courtyard (R31) closed off from the alley S70 by a mudbrick wall. It is cut by an oval pit and an elongated cut feature of prehistoric date filled with very compact loam. Spaces R22 and R21 may be an extension of the courtyard to the west. In between are two walls of which only ephemeral traces were left, and which may represent slightly later features. Sustained attempts to find surfaces in R22 and R21 did not yield results. Deposits that probably predate street S68 and the walls of R22 appeared in this area, confirming the idea that the architecture belonging to the main occupation level had originally been built from a higher elevation than the better-preserved buildings to the north and east.

Finally, R23 is an indoor space with a doorway from street S69. Its walls are wider than found elsewhere, but the room yielded no indications for why this may be.

Inside the room stood a circular oven with highly fired floor and sides in the northwest corner. A bovid skull with horn cores attached was left behind on the only surface encountered in this room, placed upside down against the southern wall.

Area E

Area E includes the structures along the southeast side of the main street, north of alleyway S69 (R27, R28, R53 and R54) as well as adjacent structures and courtyard spaces including R29, R39 and R60 (fig. 2, fig. 5). This division is arbitrary and serves only as a means to discuss the architecture in a coherent unit.

The largest space in Area E is R29, which is most likely an outdoor area. Wall 22:35 and possibly two oval features 22:79 and 22:80 lying on either side may act to divide this area into two functionally different areas; a narrow alleyway to the east and a courtyard area to the west. Both of the oval features are almond-shaped pits with the same orientation, 56 by 30 cm in size and 10-15 cm deep. Their sides are lined with sherds placed vertically into dense and hard orange clay, and they are filled with ash and charcoal. Excavation of one of these features determined that some of the sherds were also burnt. Their function is unclear, but their association with wall 22:35 suggests they may have supported a construction -perhaps a pair of posts each.

The deposits in alley 22:71 are green in color like the rest of the streets with some patches of burnt, whitish soil. Excavation in this area yielded considerable quantities of secondarily deposited artifacts. The surfaces of courtyard R29 west of 22:35 also had sherds, bones, and grinding stone fragments lying on them, consistent with an outdoor area. The finds from the courtyard include numerous sherd roundels, bone tools, (e.g. TK 6180, fig. 14:8, and TK 7259, fig 14:9), as well as hammering and grinding stones (e.g. TK 6538, fig. 15.7). Interestingly, this courtyard also yielded the highest percentage of obsidian in the settlement (table 9).

Somewhat isolated from the rest of the structures in Area E is poorly preserved structure R27. The original size of the structure is difficult to ascertain since most of its walls have been cut away by pits. A fragment of a wall with plaster along the inner face of a possible northeastern wall suggests it could have been a rather large structure. Like rooms 28 and 39, this room contains at least one interior buttress along its southeastern wall and one exterior buttress to the southwest along alleyway S69 (fig. 2). A tiny fragment of plaster along the eastern face of the baulk between Tr 20 and Tr 22 suggests the wall may have continued to the north before it was cut by pit 22:19. The plaster appears to turn a corner and this has been interpreted as another buttress opposite the one on the southeastern wall but this is speculative. Unless the plastered wall discovered to the northeast was actually part of a buttress no buttress was identified along this wall.

North of building R27 lies buttressed room R28, measuring 3.1 x 2.9 m in size. All interior wall faces and buttresses were covered by a thick layer of plaster. The plaster always curves around the buttresses instead of going behind suggesting that they were part of the initial construction of the building. With the exception of the northeastern wall 22:27, where an original interior buttress could have been cut by pit 22:51, all walls have buttresses facing the inside. It cannot be established whether the buttresses provided

structural support to the building, as both walls and buttresses were preserved to a maximum height of only 11-16 cm. A 90-100 cm wide possible doorway gives access to street S73 at the south end of wall 22:11. This room yielded four intact surfaces. From latest to earliest they are: 22:28, 22:50, 22:57, and 22:67. Among other finds, this room yielded a pierced obsidian link (TK 6521, fig. 13:9). Such obsidian links are well known from the Halaf world (Campbell 2000:12, fig.9, fig.10, Matthews 2000:109).

Adjacent room R53 stretches across Tr 22 and Tr 26. Because the floors in this room slope from northwest to southeast, parallel occupational surfaces could not always be matched on both sides of the balk. The northwestern wall of this room (26:4) has an interior buttress similar in size to those in R28 (ca. 80 x 30 cm) but it is not plastered. A much smaller buttress or bench, which did have some evidence for plastering, sits along the northeastern wall. An oval pit-feature similar to those in courtyard area R29 was found on the floor close to the smaller buttress. Three overlying floors (26:10, 26:21, and 26:34) of which the lower two were plastered were excavated in the northern (Tr 26) half of this room.

Six floors (26:11, 26:22, 26:41, 26:56, 26:62 and 26:64), three of which are plastered, were identified in adjacent room R54. The walls in this room are preserved to a height of 35 cm. Plaster floor 26:41 with six worked sherds was the only floor that yielded any small finds. Benches were located along the western and northern walls.

R60 refers to the room wedged between R53, R28, and R39. The only floor excavated here, was plastered suggesting this was an interior space. It is possible that the entrance to the room was from the east.

Lying adjacent to R28 is another single-room building with interior buttresses and wall plastering, R39. This building has buttresses in the center and corners of all four walls, creating niche-like indentations along its short sides. Excavations in the structure yielded a series of surfaces (from the earliest, they are consecutively: 25:88, 25:103, 25:87, 25:83, 25:60, and 25:40). A preview beneath the earliest excavated floor suggests the presence of older occupational surfaces, although time did not permit for their excavation. The earliest excavated floor (25:88) lies 18-23 cm beneath the height of the walls. All surfaces with the exception of uppermost packed-earth surface 25:40 were thickly plastered usually ranging in color from bluish gray to pink. Only surfaces 25:88, 25:87, and 25:60 were preserved across the whole room. Although all floor deposits were 100% dry screened through a 5 mm mesh, this room – and especially the plastered floors – yielded few artifacts. A spindle whorl found on the highest earthen floor (TK 7263, fig. 14:6) is one of the few finds from the room. Ongoing microartifact analyses, however, observed that 19 of the 24 (79%) 1-3 mm beads discovered come from various plastered floors of this room.

Room 39 was unusual in that three vessels (TK 8566, fig. 6.7; TK8567, fig.7.9; TK8569, fig. 8.7), one of which contained cremated human remains (burial 25:8), were found inside the wall in the northern corner of the structure. The placement within the wall suggests that it served as a foundation deposit. In the room there was a platform placed against the south-central buttress. In the western niche next to the platform lay an *in situ* cup (fig. 6:1), while a plastered circular basin (25:104) with a ca. 28 cm diameter was set in the floor close to the western corner of the platform. The purpose of the

platform is unknown but given the exceptional foundation deposit and unusual characteristics of the room, one may hypothesize that this was an altar of some sort. Further excavations in the room are necessary to test this hypothesis. No clear doorway was identified although a possible threshold was noted by the excavator along the southern part of the west wall (22:31), but this awaits confirmation.

Being both large rooms with plastered interior buttresses, one wonders whether there was a relationship between adjacent structures R28 and R39. A bit of exterior wall plaster preserved on the western wall of R39 (22:30) where it meets the eastern wall of R28 (22:27), suggests that R39 is earlier than structure R28, yet the three radiocarbon dates obtained from these two rooms strongly indicate otherwise (see the section on radiocarbon dates). Perhaps the lower floors in R39 will yield earlier dates when excavations continue.

Area F

A series of 5 rooms R26, R56, R57, R58, and R59 form a single row north of alleyway S74 (fig. 2). The plan of these rooms appears somewhat different from other areas where structures are usually clustered in groups around a courtyard.

Although room R59 is separated by a side alley from the other rooms, its positioning along street S74 suggests that it was contemporaneous with the rest of the architecture in the trench. Measuring 1.5 x 2.3 m. this room had four walls preserved to a maximum height of 30 cm. The exterior faces of these walls were better preserved than the interiors. Wall 26:13 to the south has well preserved bricks measuring ca. 30 x 33 cm on its outer face with possible remnants of exterior plastering. The eastern 70 cm is most probably a doorway. The room yielded several well-preserved clayey unplastered surfaces, namely 26:17, 26:23, 26:25, 26:35 and 26:60, all sloping from the northeast corner to the south and west. North of this building is an oval plastered basin containing burnt fill. Ceramics from this basin suggests that it may date to a slightly later period than the present phase (B. Diebold personal comm.).

A series of rooms lie along street S74, west of R59 and S75. The wall facing the alley may be a single contiguous wall, while the wall running along the back of these rooms may not represent a single phase of construction. R58, the northernmost room in this series has a doorway facing alley S75. Although the walls were preserved to a height of 25-30 cm, the room had no identifiable interior surfaces. Instead, several steeply sloping wash layers and a later pit were noted. R57, to its southwest, on the other hand, was more straightforward. This L-shaped room had a 56 cm wide doorway, with a well-preserved threshold, with two to three cobbles placed in the interior corners of either side. To the west of the doorway was a ca. 60 cm wide mudbrick platform. It is possible that the wall between R56 and R57 did not support a roof but that it acted as a low partition or workbench. On top of this construction sits an oval basin made of loam, which would have served both R56 and R57. Adjacent room R56 may have had its own doorway to street S74 but this could not be ascertained. No clear floors were identified. The two adjacent rooms, R26 and R55, also yielded no identifiable occupation surfaces. All other

architecture identified to the north of the street such as R61 is poorly preserved or damaged by later pits. Time did not permit for detailed investigations in this area.

Area G

This area includes a dense cluster of rooms around space R44, in the eastern end of the exposed neighborhood (fig. 2, fig. 5). The large size of R44 (2.5 x 5 m) suggests it may have been an open courtyard. Its surface was covered with a thick layer of whitish silica remains sloping down towards the center. Among the finds lying directly on this surface one finds a large sherd disk (ca. 26 cm in diameter), an *in situ* cup, a stone bowl (TK 8387, fig. 15:5), a biconical spindle whorl (TK 8675, fig. 14:7), and a stone chisel (TK 8915, fig. 14:15) and a thin walled jar (TK 8255, fig. 6:10). In addition, an antler of a red deer (*Cervus elaphus*) was found lying against the southern wall.

To the north of the courtyard area are a series of rooms R40, R41, R42, and R43. It could not be ascertained whether R40 is an outdoor or indoor space as this area was cut by a cluster of later pits. A circular oven behind a small dividing wall contained a 60 cm long grinding stone and two burnt ceramic vessels (including fig. 7:8). Our information on rooms R42 and R43 is minimal. Better understood is R41, which underwent several use stages. Ten clearly identifiable floors, all of compacted, usually light colored earth were excavated in this room. Other unexcavated floors may still lie beneath. At the lowest excavated level, the walls stood to a maximum height of 31 cm. Radiocarbon samples (no. 3 and no. 6), taken respectively from the tenth and fourth floors from the top, suggest that duration and use phase of each floor was relatively short. Various features such as a bench or step in the eastern corner, a bin along the southern wall, wall niches along the northern and eastern walls, a basin in the floor, and an associated oven on a platform in the west end were constructed in the various occupational phases and modifications in the use of this room. The purpose of the platform in the western part of the room is unknown. Keyhole shaped oven 25:7 lying on the platform appears to be associated with the later use phases of this room. No entrance was identified although the absence of bricks in the eastern portion of the northern wall of R45 suggests this may have been a shared threshold.

South of the courtyard, we find a cluster of several relatively small rooms R48, R49, R50, R51, R52, and R62 (fig. 2, fig. 5). No surfaces were identified in many of these rooms (R48, R49, R52 and R62) although it is possible that occupational floors in these structures have not yet been reached. Rooms R50 and R51, which yielded two floors each, were excavated down to a maximum height of 40-50 cm below the levels of the top of the walls. The upper of surface in R50 was made of compacted earth and had several vessel fragments lying on it, while the lower surface in this room yielded remains of reed matting. Adjacent room R51 is potentially larger than other rooms in this section. The room had a mudbrick step or bench along the western wall. Of the two surfaces excavated in this room, the upper was plastered and yielded a cluster of three *in situ* vessels (TK 8064, fig. 8:5; TK 8065, fig. 7:7; TK 8066, fig. 6:11) placed between the bench and the southern corner of the rooms, while the lower one was a compacted earth floor. No doorways or thresholds were identified for either of these rooms.

The rooms and spaces to the west of the courtyard are somewhat more difficult to interpret. R46 may originally have been an indoor area, which was then converted into an outdoor space either an alley giving access to the eastern portion of R29 or an open trash-lot. This is suggested not only by the fact that the lowest surface in this space appeared to be an indoor surface with patches of plaster, but also that the western face of mudbrick wall 25:47 was buttressed and plastered. Similar plastered buttresses have been found in nearby rooms R27, R28, and R39. In a later phase, R46 appears to have become densely filled with trash. The artifact densities in the upper floors of this space were nearly as high as in the alleyways and the greenish color of the deposit resembled the streets as well.

R45 and R47 are two adjacent rooms west of R44. Neither of these two rooms yielded intact surfaces although disconnected fragments of plaster were found in the room fill of R45. A burial of a small child (25:89) was found in the room fill deposits of this room. R47 had two benches. The one along the south wall of the room was short and had a concentration of large animal bones piled up against it. The long one along the eastern wall was plastered.

Area H

This area consists of a complex of small rooms, R30, R34, R35, R36, R37, R38, partially excavated in Tr 23, 22 and 25 (fig. 2). It is bounded to the south by streets S69, S70, and S71, and to the northwest and northeast by open spaces R29 and R46. The complex continues into the unexcavated area east of Tr 23. Room 35 had access from street 70, but for the other rooms it is unclear how they were entered. Understanding the layout and functions of these rooms is made more difficult by several intrusive pits, and the generally low level of preservation of the walls, being maximally 20 cm high. Room 30 contained a surface with patches of plaster with a plastered circular basin set into it. An *in situ* vessel lay on the surface in the western corner. Among the many artifacts from this room we find several stone bowl fragments (e.g. TK 7020, fig. 15.3; TK 8931, fig. 15.4), and examples of worked bone (e.g. TK 7666, fig. 14.10). Rooms 36 and 37 had sequences of two and three surfaces respectively. R37 contained an ash-filled basin with plastered sides. R38 to the north of R36 had the poorly preserved base of an oven, but no convincing floor level was recognized. The southern room of this complex (R35) was closed off from the street only in its earlier use life. In a later phase, it appears to have been open, as the uppermost deposits from the street S70 continued over the mudbrick wall remains between the street and room.

Area I

The only trench where architecture was found that could not be stratigraphically linked to that in the other trenches was trench 24, or Area I (fig. 3). The structures that were found directly below the plow zone lie 30 cm higher than those in adjacent Tr 12 and about 10 cm higher than those in Tr 21, and thus presumably date to a later phase of occupation. Further ceramic studies will have to clarify whether the structures date to a later Amuq C phase or to the beginning of the Amuq D period.

As the plan shows (fig. 3), mudbrick walls as well as a circular and a keyhole shaped oven were encountered in the northern half of the trench, where excavations went 5-10 cm deeper than in the southern half. The walls occur in two clusters. To the east lies a corner of a room, of which no remains were found in the adjacent trenches. An infant jar burial (24:16) was set into a floor within the room, but it is impossible to establish whether the burial belonged to a later phase of occupation of the room or postdates the walls. The architecture to the west is not well understood, and it likely that there are two phases that could not be separated. A fill deposit in the northern half of the trench yielded an elaborately decorated stone mace head (TK 7810, fig. 15:6). Finally, an Amuq E burial (24:3), an undated but intrusive burial (24:27) as well as several pits were found.

ABSOLUTE CHRONOLOGY AND STRATIGRAPHIC CONSIDERATIONS

Fokke Gerritsen and Rana Özbal

Ten samples were submitted for AMS dating to the University of Arizona laboratory. They consisted of ten single, charred grain seeds, selected from reliable loci from different parts of the exposed remains, including nine indoor surfaces and one street deposit. No samples were selected from later pits or burials. From rooms R39 and R41 (fig. 5), a sample was selected from an earlier as well as a later floor. The radiocarbon dates obtained from these rooms are consistent with the relative age of the floors.

Samples were dated with two goals in mind: 1) to obtain a general date for the main architectural level, and 2) to collect evidence enabling inferences about the time range incorporated within the occupation level and/or chronological differences between the different architectural units. Table 1 gives the uncalibrated and calibrated dates for the ten samples.

In uncalibrated dates BP, the samples range from circa 7170 to 6300 BP. When calibrated, the total possible range lies between 6220 and 5080 cal BC (95.4% reliability interval). When the oldest and three youngest dates are omitted (see below), the six remaining dates fall within a 200 year period between 7030 and 6840 BP, representing a total possible range from 6020 to 5530 cal BC. The combined date for these six is 6937 ± 24 BP (statistically significant at a 99% confidence interval), giving a maximum calibrated range (at 95.4%) between 5870 and 5720 cal BC. In general terms, this indicates that the excavated Amuq C settlement dates to the first half of the sixth millennium cal BC, probably to somewhere between 5900 and 5700 cal BC.

This placement in the first half of the sixth millennium cal BC is contemporaneous with Late Neolithic or Early Chalcolithic sites in Anatolia and may have implications for our understanding of the temporal relationship between the Amuq C and the Halaf Period in Syria and Northern Iraq. Based on ceramic shapes and designs, the Amuq C has most commonly been associated with a later phase of the Halaf Period (Akkermans 1993:132; Braidwood and Braidwood 1960:137; Davidson 1977:265-72; Matthews 2000:101; Watkins and Campbell 1987:439). Based solely on absolute chronologies however, the exposed occupation level could be considered roughly contemporary with the end of the

Halaf Ib (Early Halaf) Period and possibly the beginning of the Middle Halaf or Halaf IIA Period of Northern Mesopotamia (Campbell 1992:61-97).⁵ As explained above, there is reason to believe that the level exposed in 2001 is not at the beginning or particularly early in the Amuq C sequence suggesting underlying Amuq C layers could yield even earlier dates. Nonetheless, the chronological placement of the exposed levels at the end of the Early and/or the beginning of the Middle Halaf Periods appears to be at odds with the Kurdu ceramic evidence, as Middle/Late Halaf parallels exist for the shapes and designs represented in the Kurdu assemblage (Davidson 1977:265-72).⁶ This suggests either that Halaf ceramic sequences for Northern Iraq and Northern Syria correspond only approximately with Amuq versions of Halaf-like pottery (cf. also Watson and LeBlanc 1990:132-133), or that the chronological subdivisions within the Halaf period may need to be revised (cf. also Akkermans and Wittmann 1993:160-61).⁷

With regard to the second aim of the radiocarbon dating program, the range of dates among the samples gives reason to be optimistic about the possibility of refining the internal chronology of the occupation level, but also cause for concern. Four dates from four different excavation trenches (Samples 4 through 7) are quite close in date. They can be combined to a date of 6904 ± 31 BP (5840-5710 cal BC), statistically significant at a 99% confidence interval. This indicates that Areas A, F, G and H are contemporaneous in absolute dates, and that it is therefore quite likely that they were inhabited at the same time.

Nevertheless, the oldest and the three youngest dates fall outside the range of 5900 to 5700 cal BC. One possible reason for the long time range represented by the samples is that even though short-lived, single-entity samples were used, some of the dated seeds are intrusive or otherwise not related to the event they were expected to date. We have no reasons, however, to assume that the outlier samples are any less reliable than the others.

This suggests that another explanation has to be considered, which is that the stratigraphic composition of the architectural level is more complex than could be detected during the excavations. This particularly concerns Area E, which yielded the oldest and youngest dates. Many stratigraphic clues are still missing from the picture, as we have not excavated to the earliest floor levels throughout and have not taken apart the walls themselves. Nevertheless, our present understanding of the stratigraphy does not give reason to believe that the plan is a composite of different phases of building, use and abandonment greatly separated in time. If it were not for the radiocarbon dates, we would have been confident about the possibility of interpreting the whole of the architecture as representing a single phase of occupation, that is to say that most or all the excavated buildings would have had a considerable degree of temporal overlap. In a general sense,

⁵ The closest phase from the Balikh Valley of Northern Syria is the Balikh IIIC (Akkermans 1993: 134; Nieuwenhuyse 1997). Anatolian and Cilician sites with comparable radiocarbon dates include Can Hasan I, Level IIB (Thissen 2002: 303), and Mersin Yumuktepe, Late Neolithic levels XXIV or XXV (Caneva 1999: 109; Thissen 2002: 309).

⁶ Painted ceramics constitute only a very small fraction of the Amuq C pottery assemblage at Tell Kurdu and may have limited value for chronological comparisons of levels and sites.

⁷ It must be noted that nearly all of the ceramics represented in this report come from secure contexts (unless noted otherwise, see the Appendix for context information), while the relatively tight range obtained for the AMS samples leaves little doubt about the integrity of the absolute dates.

this finding warns against too much confidence in published plans of settlement occupation levels that are not accompanied by an adequate set of radiocarbon dates.

The only sample that could be expected to post-date the others is Sample 8, taken from the upper deposits in the street of Tr 23 and thus presumably related to a relatively late phase in the use of the street. Two samples (9 and 10) are later in date than Sample 8, coming from two floor levels of room R39. The probability curves of these two demonstrate very little overlap with the earlier samples. This indicates that the niched and buttressed room R39 is a later addition to the overall plan, or at least that it continued in use after surrounding buildings had been abandoned (as unexcavated floors of this building lie beneath). Even more striking is that the earliest floor of the adjacent niched and buttressed room R28 produced the oldest date in the range, between 6220 and 5880 cal BC (Sample 1). For R28 and R39 to have had any overlap in their existence, the later (undated) floors of R28 and the earlier (not yet excavated) floors of R39 together have to span a time range of a minimum of 250 years. This exceeds our expectations of the normal use-life of a mudbrick building. In order to rule out that unreliable samples were dated, we plan to submit several more samples for AMS dating.

EXCAVATIONS AT TELL KURDU, 2001: THE POTTERY

Benjamin H. Diebold

Introduction

The pottery from the operations on the north lobe of Tell Kurdu excavated in 2001 revealed a rich and diverse assemblage. Aside from a few pits and graves dug into the excavated levels from later periods (primarily a series of Ubaid related burials associated with the large cemetery placed at that time on the then-unoccupied north lobe of the mound), the assemblage is roughly contemporaneous with the Halaf period, or phase C of the Braidwood chronology (Braidwood and Braidwood 1960).

Since the 2001 excavations concentrated on exposing a wide lateral area in order to explore synchronic issues of spatial organization and resource utilization, a deep chronological refinement of the phase C period is not yet possible. The radiocarbon data do raise the possibility of a recoverable ceramic sequence from the area, but more research is necessary. Consequently, what we do have is a fine representation of the phase C assemblage from contemporaneous, or nearly contemporaneous, contexts. When analyses of similar wide area Ubaid period contexts are complete, detailed comparisons of the ceramic assemblage between two major phases of the site will be possible. What this report presents is a summary of the major findings of the study of ceramics thus far completed from phase C contexts of the north lobe of Tell Kurdu (see also Diebold 2000:63-65).

Methodology

In each unit, excavators were asked to rank the quality of the locus (a unit of natural deposition) on a scale of 1 to 4. A rank 1 locus represented the highest quality – a

short term, unmixed deposit of a single event, for example a burial. A rank 2 locus represents the next highest quality, which was a deposit with relatively little mixing, confined to a single period, e.g. a small pit. A rank 3 locus indicates deposits of mixed ancient remains, e.g. disordered pits or places of possible mixed stratigraphy like decayed mudbrick, while a rank 4 locus denoted contexts that were possibly contaminated by modern remnants, e.g. plow zones. For purposes of the present study, only pottery from ranks 1 and 2 contexts was considered.

For each of these relatively higher quality deposits, all sherds, including body sherds, were sorted according to major ware groups, which were then counted and weighed. Additionally, every sherd was submitted to a random sampling test, determined by dice (following the example of a similar strategy employed by Stuart Campbell and the ceramic analysts at the Domuztepe excavations; Campbell et al. 1999). Any sherd that fell within the 10% probability decile was then described more carefully. The only sherds that were not subjected to the 10% probability test were those deemed too small to have supplemental scientific analysis, like instrumental neutron activation analysis, performed on them. Effectively, that meant any fragment smaller than about 2-3 square centimeters was considered a reject, and was not included in the sample. All sherds of final 10% sample group were then macroscopically studied for inclusion information (table 2), color, surface treatment, thickness, and weight, in addition to being digitally photographed. Moreover, sherds within the probability group with diagnostic shapes had those relevant attributes recorded, like diameter, and were drawn. Additionally, any sherd that fell within a 1% probability number was not only individually recorded, but was set aside for chemical analysis, which includes instrumental neutron activation analysis (INAA). Study of the INAA results (performed at the Missouri University Research Reactor) is ongoing. Finally, any sherd that did not fall within the 10% analysis group, but that still seemed significant or particularly diagnostic, was recorded on an ad hoc basis, and described, drawn and photographed.

Discussion

The first major decision was the definition of ware groups. After a series of experiments with alternative typologizing strategies, the fundamental soundness of the Braidwood typology prevailed, and, with only a few refinements at present, is reproduced here. The wares and frequencies for phase C recorded by the Braidwoods are shown in Table 3.

Our experience thus far with the assemblage is that while the Braidwood groups are fundamentally sound, though possibly amenable to subdivision, the frequency data needs revisiting. Braidwood's monumental labors in the Amuq include the definition and description of a 6,000 year cultural sequence of a variety of artifact categories derived from the several sites sampled or excavated by the Chicago team in the 1930s, which has fundamentally lasted since the publication of their seminal report in 1960. However, the early part of the sequence, in particular phases C and D are not only represented by the

smallest amount of excavation material, but also the most hastily excavated.⁸ Due to exigent circumstances, the Braidwoods were forced to excavate Tell Kurdu, in 50-centimeter increments and selected only certain diagnostics, especially decorated ones, for subsequent analysis in Chicago.

Our results are presented in Table 4 below. Obviously of note is the relatively high frequency of the various types of cooking wares. In fact, while Dark-faced Burnished Ware (DFBW) is considered the type marker for the region and period, the Dark-faced Unburnished Wares (DFuBW) are probably more diagnostic, or more specific to the central Amuq. The Braidwoods describe two variants of DFuBW, one of which is a more buff-faced, thick walled ware, while the second is generally thin-walled (occasionally remarkably so), fire-blackened, and often very roughly textured. The second is the most characteristic ware of any phase C ware, and comes in a relatively limited variety of large bowls, generally with interior thickened rims (fig 7:1-6). Tell Kurdu and several other phase C period sites uncovered in the Amuq survey (e.g. Tell Rasm, AS80; Hasanuşağı; Tell Judeidah, etc) contain very characteristic examples of DFuBWv2. The thin walls of some of the DFuBWv2 examples deserve special note. These vessels occasionally had rim diameters approaching 50 cm, yet with walls only 4-5 mm thick. They showed extensive sand or grit inclusions, which appear to offer an extra measure of thermal shock resistance and vessel hardness (Rye 1976), probably necessary for a form style characterized by such thin walls, which ranged from 3 mm to 8 mm. In contrast, the buffer variant of DFuBWv1 showed a range of 5 mm to 1.1 mm. In all cases, the cooking wares rely extensive on grit or sand inclusions (probably in sufficient concentration or with sufficient potter purpose to designate as a temper), though the inclusions in the DFuBWv1 variety are somewhat larger and coarser, while those of the Cooking Pot Ware class are yet more coarse and thick. No particularly compelling parallels are documented outside the Amuq for these cooking wares, especially the particularly diagnostic DFuBWv2, though it is possible the Qoueiq (Mellaart 1981) or the Rouj Basin have some (Iwasaki and Tsuneki 2003; Tsuneki et al. 1998; Tsuneki and Miyake 1996; Iwasaki et al. 1995).

The best parallel assemblage for the DFuBWv2 at Tell Kurdu is actually that at the site of Tell Rasm, also in the Amuq Plain (and documented in the Amuq Valley Regional Survey; Yener et al. 2000a). While Tell Rasm has yet to be formally studied, the DFBW and DFuBW there are essentially identical to those at Tell Kurdu. Unlike Tell Kurdu, Rasm is notably lacking in any painted wares, aside from a few carinated bowls of a local painted style, very similar to those from Tell Kurdu. The only patterned differences between the DFuBWv2s at Tell Rasm and Tell Kurdu appear to be that those at Tell Rasm tend to be more red or more light brown, and somewhat harder, while those at Tell Kurdu are inclined to be more gray or black, and a bit more brittle.

Most of the interest in the pottery of this period of the Amuq has centered around the DFBW phenomenon. DFBW is a broadly defined ware, essentially encompassing a variety of forms and pastes under a general categorization of surface treatment. The

⁸ See Braidwood and Braidwood 1960: 19, fig. 15, for a chart representing the relative quantities of excavated material.

tremendous variability of the forms and wares of DFBW make it difficult to sub-divide. However, there are some groups that do begin to emerge after study. There is a group of medium sized, high-necked jars with a slipped, very dark, highly lustrous surface that has a nearly lacquered quality. The pastes for these tend to be relatively free of inclusions, and dark brown or gray in color. A small group of DFBW sherds looked to be hemispherical or slightly closed pinch rim bowls, again medium-sized, with a distinctive brownish surface and a streaky burnished finish (not pattern-burnished). These sherds contained somewhat more grit inclusions than the lacquer-like sherds, with a thinner slip, or no slip. Another set of DFBW had a distinctively buff surface color, while yet another was red painted or washed and then burnished. A final group had a smooth, dull gray exterior, and may be the result of a DFBW with a pronounced slip that had spalled off (originally suggested by Matson, in Braidwood and Braidwood 1960). Insufficient quantities of these potential subvariants of DFBW were sampled according to the 10% rule from the high quality contexts of the north lobe operations of 2001 at Tell Kurdu to provide very definite quantitative or descriptive information at this point.

Basically, three varieties of painted ware were distinguished: monochrome, Halaf, and local painted. Among these, local painted was the most commonly reported. The distinguishing criteria here is that the Halaf sherds were defined on the basis of direct stylistic correspondence with Halaf-related sherds of northern Syria or Iraq, e.g. cream bowls with Halaf style designs. Monochrome painted sherds were produced from a fine buff, well-oxidized paste, often with quite thin walls, and with design elements that combined elements of the classical Halaf with aspects of local tradition. The Local Painted group is essentially, whatever was left over, though there were a distinctive series of pots with occasionally elaborate red or orange painted designs. The Local Painted series certainly tended to be thicker, somewhat coarser, and with denser, redder paints than either the monochromes or the Halaf painted.

Conclusion

The ceramic assemblage at Tell Kurdu is dominated by a distinctive series of coarse, thin-walled cooking vessels, a fine series of burnished wares, and a group of local painted wares, with the occasional admixture of what may well be import pieces from Halaf-related regions to the east. The sense is of an assemblage with a strong local tradition, which has attenuated contact with a Halaf-like sphere of interaction. This is in contrast to what has previously been reported of the Ubaid period settlement at Tell Kurdu, where the assemblage has relatively few local constituents, and looks very much like a classical Ubaid period assemblage in northern Syria (Diebold 2000). When this insight is combined with the pattern of pre-Halaf or very early Halaf-related period pottery in the Amuq looking more related to sites along the Levantine littoral (e.g. Ras Shamra), the following long scale pattern appears. A distinct regionalism with a tendency to link to sites along the Mediterranean littoral gives way during the Halaf period to an emerging series of contacts with sites to the east in Syria, followed by what amounts to near complete assimilation to Ubaid related styles during the early northern Ubaid period (e.g. Hammam et Turkman IVb-c, Akkermans 1988a).

THE TELL KURDU 2001 CHIPPED STONE
Elizabeth Healey

Introduction

Some 2534 chipped stone artifacts were recovered during the excavations in 2001. They were catalogued and recorded in some detail depending on context (tables 5 and 6); the present report provides an overview of those from the more secure contexts. However, it may be remarked in passing that the composition of the assemblages from the later and mixed levels does not greatly vary from the Amuq C contexts although some of the material from the surface and plough zones seems to belong to a different technology (cf. Edens 2000:78).

The purposes of the study were various, including: (1) to ascertain whether the relative proportion of flint to obsidian was consistent throughout the excavated contexts or whether it changed unit by unit, (2) to differentiate between the different flints and obsidians used and to try to ascertain their sources, (3) to obtain some understanding of the reduction processes involved and to see if they were affected by different raw materials, and (4) to ascertain what was made and where it was used. All these areas have been addressed at some level, but some are the subject of further study.

A range of flints and obsidians has been used as raw materials. Flint is the most frequently used but obsidian accounts for about 23% of the raw material in Amuq C contexts combined, though it varies from unit to unit, being as high as 48% in R 29 (fig. 2 for room numbers) (cf. Edens 2000:78). The flint is of various colours and textures similar to those described by Edens (2000:74-75). It could have been obtained in the immediate locality although it is possible that some were obtained from the Amanus mountains c. 15km away (Edens 2000:75).

Obsidian, on the other hand, does not occur locally and its sources are some distance away in Cappadocia and in eastern Anatolia. The use of obsidian from both these source areas has been confirmed through geo-chemical analysis of some of the obsidians from previous excavations (Bressy *et al.* forthcoming); the results of geo-chemical analyses of the obsidians from the 2001 excavations still are awaited. However, as a general means of differentiating sources, colour in transmitted light, used judiciously with geo-chemical analysis, has proved useful (Healey 2000:135-6; Tykot and Ammerman 1997:1003). The proportions of the different coloured obsidians from the Amuq C contexts are shown in Table 7. Obsidians of translucent gray colour are usually associated with central Anatolian sources though there are a variety of types with this broad group; green and brown obsidians and possibly black (Campbell and Healey *in prep*) almost certainly come from eastern Anatolia. Since well over 50% of the obsidian is of eastern Anatolian type it would seem that, in common with other contemporary sites in the general area, connections with Eastern Anatolia were strong at this time (Maeda 2003:182).

Obsidian Technology

The black, green and gray obsidians all seem to have been worked on the site at some point in their life history. Indeed one green blade has part of the weathered surface of the original nodule on the dorsal surface (fig. 10:3) suggesting that it is a fairly early-stage piece. The technology is geared towards blade production and the finest blades (the longest blade measures some 85 mm in length and just over 10 mm wide) were produced by pressure flaking as evidenced by the partially ground platform remnants and the regularity of the blades and the hooked distal terminations (Wilke 1996:300). However, there are indications of earlier stages in the reduction process too, including re-used cores (fig. 10:7), various shaping and trimming pieces and wider blades (some of the blades measure up to 25 mm in width, e.g. fig. 10:12).

Most blades seem to be from uni-directional cores but there is a blade-like piece from R24 with bi-directional scarring and change of orientation is also evident from a slightly overshot blade from R28 which removes part of an opposed ground platform and similarly a trimming piece from R59 which has been struck at right angles to the flaking axis to refresh either a platform or a ground edge (fig. 10:9, 10:10). Although most of the pieces are regularly flaked, one blade-like trimming piece (fig. 10:8) from room 29 removes a deep step on the face of a core suggesting a miss-hit at some stage in the reduction process. Core preparation and shaping by cresting is suggested by a lateral blade from room 53 (fig. 10:5) with truncated cresting scars.

Retouching of obsidian is almost entirely confined to the edges of blades with the occasional notches (possibly damage) and no formal tools made of obsidian have so far been recovered except for a possible burin from R 39 (fig. 10:12). Compared to the flint blades only a small proportion of the obsidian blades have been retouched, and it is possible that some of the rather fragile fine blades such as fig. 10:1, found in a wall niche, did not have a utilitarian purpose.

This is further supported by the use of a squat, flaring flake of transparent brown gray obsidian from R28 (fig. 13:9) which has been shaped into an oval by abrupt retouch truncating and blunting the proximal end while the curve of the hinge fracture on the distal end provides the other edge. It measures 50 x 17 mm and is about 6 mm thick. The perforations at both extremes appear to have been drilled from both faces. There is also a barrel-shaped bead of translucent gray/brown obsidian from R04 (fig. 13:2).

Flint Technology

The cores are fragmentary and not very informative. Blades predominate in all contexts forming over 50% of the Amuq C assemblage and over 80% of these have been retouched. Few of the blades are complete, but the larger glossed blades are substantial and measure between 60 and just over 80 mm in length. The blades are sub-parallel in plan form and tend to taper to a pointed end. Striking platform angles are quite acute. Most are struck from uni-directional cores; cross-sections of the blades are normally triangular or trapezoidal. They tend to have plain narrow striking platform remnants and the diffuse bulbs suggest the use of a soft hammer.

Conventional terminology has been used to aid comparison of retouched forms on a wider scale but it does not necessarily imply function and it is hoped that for the future some use-wear analysis may be undertaken. Retouched forms including glossed pieces, scrapers, perforators or points, burins, arrowheads, bifacials and miscellaneous retouched pieces are discussed below. The main types of retouched forms from the secure contexts are summarized in Table 8 and their distribution by unit detailed in Table 9.

Miscellaneous retouch: This catch-all category includes not only the shape-defined elements but also a variety of forms including blanks with non-invasive edge retouch, which does not radically alter the original shape of the blank. Mostly this is nibbling edge retouch, which occurs on the distal end and/or the edges. Two of these pieces, both from R24 are worn (i.e. the edge is rounded through use). There are also five pieces with regular, parallel semi-invasive retouch along one or both edges like fig. 11:16.

Glossed pieces: Glossed pieces, both complete and broken, are present in 23 out of 40 rooms. Mostly they occur in ones and twos but R05, R24, R28, R30 and courtyard R47 have four or five each and R42 has ten. The street deposits, which are probably made up of debris from the houses, also have similar numbers of glossed blades; S68 in fact has eleven such pieces. The presence of gloss suggests that these pieces had a common purpose, although this remains to be confirmed through use-wear analysis. They are by no means of a standard form as those illustrated in figure 12 show. Many are broken so that it is not possible at this stage to meaningfully quantify each type, though it can be remarked that unmodified pieces are unusual. The following summarizes the variation in form:

1) Backed and truncated: these occur in a variety of shapes from sub-parallelograms (fig. 12:3) to those with curved backs (fig. 12:1) merging into crescentic pieces (fig. 12:4). Sometimes, as in fig. 12:7, an oblique truncation at one end is opposed by a rounded one at the proximal end. One from R29 (fig. 12:6) has retouched ends with cortex forming the back.

2) Truncated ends (fig. 12:5, 12:11-14): These are blade segments truncated at both ends to form parallelograms, but with no retouch on the back; sometimes the end is concave which may form a point. Others have only one end modified.

3) Other less formal types include blades with the retouch shaping the ends (fig. 12:9).

Usually gloss only occurs on one edge (probably due to the backing retouch and the shape for hafting). The extent of the gloss ranges from a narrow band to heavier more extensive gloss often reaching to the ridge. The distribution of the gloss tends to follow the shape of the working edge for example if the working edge is concave then the distribution of the gloss is concave.

Several pieces (not included in the glossed totals) have been shaped but do not show any gloss and it is possible that they are unused or only slightly used (cf. the shaped-defined elements at Sabi Abyad (Copeland 1996:293).

Scrapers: Only four pieces which could be described as scrapers were found. Two have end retouch on the end of a blade-like piece (fig. 11:13); fig. 11:9 is a heavier and more crudely denticulated piece from the courtyard R44 that shows some possible rubbing on the ventral face.

Perforators or points: Three main forms are included here, all with attention to the point, which may be worn. Three squat flakes have been retouched on both sides, which converge to form a point, and five blades have less distinctive retouch on a naturally pointed flake (fig. 11:5 and 11:6). A more distinctive form has the point emphasized either by opposing notches or by elaborate retouch. The point (fig. 11:1) found on the floor of R05 has a long and delicate point with a quadrangular cross-section formed by abrupt retouch on both edges and on the ventral face at the tip; some points have signs of heavy wear (fig. 11:4 and 11:7).

Burins: Burins are mainly struck from a truncated end or from a retouched edge (fig. 11:11). Most are fairly robust objects but fig. 11:12 is an example of a slighter type. Also some glossed pieces have burin facets on them that may be a hafting device or possibly a secondary use because of the size of the blade. Although burins have been seen as graving tools it is possible that they are cores of the production of spalls for use as drill bits (Findlayson and Betts 1990).

Arrowheads: Only one arrowhead of transverse type was found (fig. 11:14). It is made on a blade fragment, with abrupt retouch on the sides and nibbling edge retouch on the cutting edge, which is unusually convex.

Bifacials: This is a heterogeneous group of artifacts characterized by flaking on both the dorsal and ventral surfaces of the blank, but are unlikely to have served a common purpose. Amongst these attention should be drawn to the piece illustrated in fig. 11. Bifacial 11:15 is made on a flake or blade, which has been ground on the ventral surface and has cortex on the dorsal face. It is relatively long and narrow and has been bifacially flaked with semi-invasive and semi-abrupt retouch forming a lenticular cross-section. There is a butt of a possibly similar but larger fragment of lenticular cross-section that was recovered from R57. It has been bifacially flaked around the edges with semi-invasive retouch. The cortex on the dorsal surface has been rubbed smooth and possibly incised and there are also some indications of rubbing on the ventral face.

Discussion

Typologically the artifacts are similar to those found in other Halaf-related assemblages (cf. Copeland 1996:316; see also Braidwood and Braidwood 1960 and Edens 2000). The range of activities seems to have been largely restricted to cutting some silica-rich material (glossed blades), possibly incising objects (burins) and perforating objects (points) such as the obsidian pendant as well as softer materials.

The particular interest of the chipped stone is that not only is it from securely dated Amuq C contexts, but also that the artifacts have been found *in situ* in rooms, courtyards and street contexts. These contexts together with the microdebitage evidence (see the microartifact section below; Özbal and Healey forthcoming) will offer an opportunity to establish activity areas (cf. Rainville 2001:32-33).

Numbers and variety of types and proportion of obsidian vary greatly from unit to unit as Table 9 demonstrates. Only thirteen interior rooms had more than twenty artifacts and within each of these the proportion of obsidian varies from as high as 42% (R05) to as low as 4% (R28). The presence of fine blades, apparently deposited in a wall niche in

R24 and the pendant in R28 and the bead in R04 may suggest that its presence was more than utilitarian.

It is expected that further research will help to clarify the role that chipped stone played in the activities pursued in this area of Tell Kurdu.

THE SMALL FINDS

Fokke Gerritsen

Next to ceramics and chipped stone, the excavations yielded smaller assemblages of other artifact categories. These consist of a range of types, including personal ornaments such as beads and pendants, administrative artifacts such as tokens and seals, and implements and containers made of stone, bone, ceramic and clay, but not of metal. This range appears to be fairly typical of Late Neolithic and Early Chalcolithic settlements in Anatolia and Northern Mesopotamia (e.g. Bernbeck 2001; Merpert and Munchaev 1993b: 194-196; Spoor and Collet 1996). This section presents brief characterizations of the artifact categories, concentrating mostly on the finds that come from secure Amuq C contexts. Finds from the plow zone or from intrusive pits are excluded unless they deserve individual mention.

Figurines are quite rare (fig. 13:12, 13:13). There is one anthropomorphic figurine made of lightly baked clay of which only the head remains. Noteworthy is also a finely made curved horn made of a light-colored stone, which presumably belonged to a cattle figurine.

Beads and pendants mostly are of stone. Shell and animal teeth are less frequently used. The shapes include pierced discs, cylinders, barrels (e.g. an obsidian bead, fig. 13:1) and rounded rectangular 'pillow' shapes. In addition, the microartifact analyses yielded numerous stone beads often no larger than 1 to 3 mm in size. Several pendants with drilled loops on the back occur in various shapes, including a stylized anthropomorph (fig. 13:3) and a triangle (fig. 13:8, from plow zone), and are often decorated with incised lines and drilled holes. It is possible that some of these were also used as seals. Excavations at Domuztepe have yielded a nearly exact parallel for the above-mentioned triangular pendant/seal (fig. 13:8; Carter et al. 1999:fig.16.1). A quatrefoil seal (fig 13:10) also has parallels at other Anatolian Halaf related sites such as Fıstıklı Höyük (Pollock et al. 2001:fig.10f) and Domuztepe (Campbell et al. 1999:fig.14.4). One stone disc (13 mm in diameter) with a lateral piercing (fig. 13:11) has an extremely finely incised scene depicting a bird of prey attacking a fish or other animal. Although it comes from a secure context (lower floor of room R06), the uniqueness of this pendant or seal give some reason for caution; it may be an artifact of later date that was transported down to this level by bioturbation.⁹

In addition to pendants that may have served as seals, there is one seal made of a ceramic lug handle (fig. 13:14). Late Neolithic levels at Mersin Yumuktepe yielded

⁹ Nonetheless, figurative designs with remarkable detail have been found on sealings from Sabi Abyad Level 6 (Duistermaat 1996: fig. 5.7-5.8).

similar example of a lug handle ceramic seal (Caneva 1999:fig.20). The interior face of the handle is deeply incised with a geometric pattern of sub-perpendicular lines. Clay sealings were rare despite 100% dry screening of nearly all reliable contexts (the number of fragments of identifiable clay sealings is less than five). The most convincing sealing (fig. 13:22) is a discoid made of burnt clay, with coil impressions, possibly of a basket, in the base and possible rope impressions on its upper surface. Although this leaves the question of sealing practices (and its possible implications for the administration of property) open for the moment, there is clear evidence for the use of clay tokens (fig. 13:15-21). Twenty-four objects were found that can be interpreted with some confidence as tokens, based on identifications at other sites. The most common shape is a cone with a round base of 10 to 15 mm and a height of 8 to 20 mm (fig. 13:15-13:18). Less frequent are spheres, discs (fig. 13:20) and a single almond or wheat-grain shaped token.

Perhaps related to the use of tokens are a number of reworked pottery fragments or sherd roundels. Recently, the suggestion has been made that sherd roundels functioned as mnemonic devices (Kielt Costello 2000). Sherd roundels occur frequently in the Amuq C deposits at Tell Kurdu, but their contextual information does not provide evidence to support or denounce this hypothesis. The possibility of multiple functions has to be left open for the moment. Sherd roundels range from very well rounded discs (fig. 14:1, 14:2) to coarsely rounded sherds. In some instances reshaping a sherd was clearly done by chipping the edges. Sometimes the painted design appears to have been an element in the selection of the sherd (14:1, 14:3). There is a considerable variety in the size of sherd roundels, ranging from 2.5 to around 10 cm across. Next to circles, recurring shapes include hexagons and D-shapes (fig. 14:4).

Spindle whorls and bone tools comprise a large fraction of the small finds. Spindle whorls (fig. 14:5-14:7) are of common forms, mostly made of baked clay and recycled sherds. There is one lentoid pierced stone disc (14:5). Implements made of bone include awls made from metapodia, pins and a spatula (fig. 14:8-14:12).

Hammering and pounding stones as well as grinding equipment such as mortars, pestles and querns are well attested at Tell Kurdu (fig. 15:7, 15:11). A group of grinding stones found on and around a workbench in room R05 (cf. fig. 4), together with other objects and installations related to food preparation confirms their use for grinding grains.

Celts made of different types of stones occur with some frequency (n=21), although more than half of them come from the plow zone and may not be Amuq C in date. Two are narrow in relation to their length and are presumably chisels (fig. 14:15-14:16). Axes (with symmetrical beveling of the cutting edge) and adzes (with asymmetrical beveling) are equally common. Some celts show indications of heavy use, the butt end is often battered (fig. 14:18) and the working edge varies from sharp to well rounded. Presumably, celts were mainly used for woodworking. More for symbolic than practical use is an elaborately decorated mace head of dark gray to black stone (fig. 15:6). It was found in a deposit in trench 24 and is therefore stratigraphically related to the main Amuq C occupation level only in a general sense (see above). It is a double cone with a rounded rectangular section at the widest diameter. It has four, somewhat battered buttons at the corners. The ends are decorated with concentric incised lines.

A final category of artifacts made of stone are ground stone vessels (fig. 15:1-15:5). These are mostly low, open bowls with diameters of 8 to 20 centimeters. There is one fragment of the neck of a small jar. Most stone vessels are thin-walled with a smooth finish. Some show signs of reshaping of the rim (fig. 15:5).

PETROGRAPHIC ANALYSES OF STONE OBJECTS

Ş. Nihal Aydın

Petrographic analyses were conducted on 25 stone artifacts dating to Amuq Phases C-E from the 1996, 1998 and 1999 seasons at the MTA (Maden Teknik Arama) Mineral and Research General Directorate laboratory in Ankara (Aydın 2002). The analyses characterized the raw materials of stone artifacts by determining their hardness, structure, and reaction with diluted HCl. Further identifications were made using a polarizing microscope. While the larger analyzed artifacts such as grinding stones, hammer stones, pestles, querns, and other stone objects were identified as basalt albitized, andesite, quartz arenite, lithic arkose, micrit (limestone), chlorite granofels, and hydrothermal mineral calcite, smaller objects such as stone disks, counters, whorls, and celts were identified as sandy calc-arenite, subarkose, tuffaceous sandstone, litharenite (sedarenite), micrit limestone, and serpentinite. Sedimentary rocks with relatively low hardness (values between 3.5 and 5) appear to be used most frequently especially for the smaller objects, whilst basalt and andesite (5.5 to 6.5 hardness values) are favored for grinding stones, querns, and pestles. MTA archive reports (e.g. Aslaner 1973; Atan 1969) show that all raw materials are available in the direct vicinity of the Amuq Plain with the exception of tuffaceous sandstone (TK 2229) and chlorite granofels (TK 0665 and TK 1936). The latter three objects could either represent foreign imports or are from local rock types that remain unrecorded in the geological surveys conducted in this region.

MICROARTIFACT ANALYSIS

Rana Özbal

The microartifact studies at Tell Kurdu are part of a larger program of fine-grained activity-area analyses, which also include soil micromorphology (carried out at Boston University Micromorphology Laboratory) and the identification of the mineralogical and elemental composition of occupation surfaces (carried out at Boğaziçi University Archaeometry Laboratory). As the above-mentioned analyses are still in progress, this report will present preliminary results obtained through the study of microartifacts (also see Özbal in press). The methodology used is explained elsewhere (Özbal 2000). To date, 191 soil samples (totaling 510 liters) that were collected from Amuq C deposits during the 2001 season have been analyzed, yielding over 35,000 microartifacts.¹⁰ Although

¹⁰ In this study, 15 mm has been taken as the maximum microartifact size. In this report, only four types of microartifacts are considered: ceramics, chipped stone, bone and shell. Other studies may use different criteria in the definition of microartifacts (see Cessford 2003, Rainville 2002: 196, Rosen 1993).

statistical analyses to distill information from the data are ongoing, some preliminary patterns are already visible. More definite and comprehensive results will appear in future reports.

Perhaps the clearest pattern yielded by the analyses is a notable difference in density of microartifacts between streets and room/courtyard spaces. Density is calculated by dividing the total counts for each microartifact category in a sample by the volume of the sample (in liters). As is visible in Table 10, streets, which contain visibly high quantities of macro domestic refuse and garbage, are also extremely high in microartifactual remains. Density values for micro ceramics, chipped stone, and bone from the street samples are multiple times higher than values from rooms/courtyards. This pattern indicates a fundamental difference in the cleanliness of these spaces. Micro shell densities are an exception, being roughly equally abundant in street and room/courtyard samples. This may be due to the fact that shell was brought to the site through both natural and cultural agents; it also occurs in high densities in some of the off-site samples taken as a reference. In addition, it is clear from the table that microbone is found much more frequently than other microartifact categories in all types of contexts.

The preliminary analyses furthermore indicate the presence of two activities in various rooms and courtyards; (1) burning as indicated by burnt microbone and (2) chipped stone knapping.

Burning alters the physical appearance of bone, making the identification of burnt bone or – in this case – burnt microbone relatively easy. Comparisons of the percentage of burnt microbone in samples taken across a floor surface can provide information on the location of burning activities, assuming that small fragments of bone lying on and within floor surfaces become burnt after a localized fire in a particular place. Interestingly, burnt bone concentrations seem to be higher in the center of the room on several overlying floors of R28 (table 11). Although no formal hearths were present (and in most cases no signs of burning could visibly be identified on the floor surfaces), the burnt microbone concentrations are indicative of repeated burning activities taking place in the same location through different phases in the use life of this room. The concentration in the highest of the four floors is less pronounced than in the other floors -possibly because pit 22:51 (fig. 5) was detected only after the microartifact samples were taken- and may not necessarily signify burning. The difference between the total percent of burnt bone for centers and the edges of the room is statistically significant ($p < t = 0.95$). Analyses continue to determine whether other rooms also yield such evidence for burning locations. Preliminary results indicate that a similar pattern is present on the earliest excavated floor of R39 (table 11).

A second activity noted by the microartifacts is lithic knapping, as exemplified by the micro chipped stone densities in courtyard R07. Localized densities of like-colored micro flakes, chips and other debitage can indicate the location of chipping activities (Middleton 1998:210-232). The density of micro chipped stone in this courtyard is considerably higher than in other locations (three times higher than the average of the rooms, and higher even than the density in the streets), presumably because chipping activities took place here. It is not surprising that an exterior courtyard space was selected for lithic knapping. The most notable concentration comes from the north-center of the

courtyard where over 100 fragments of yellowish flakes and chips were found in several samples collected from this area. Interestingly, the fact that the northwestern-most sample from adjacent R10 also yielded yellow flakes of the same color and texture may confirm the presumed doorway between these two areas. There may be other lithic concentrations, including a small group of reddish flint flakes in the south and a number of obsidian flakes to the west of the courtyard and in the threshold of the doorway into R05, but these are relatively small clusters. A detailed discussion of the chipped stone knapping in this area is forthcoming (Özbal and Healey forthcoming).

In addition, beads, no larger than 4 mm in size were also found among the microartifacts. Interestingly, 19 out of the 24 beads found (79 %) come from two overlying floors in room R39. These beads vary in color from grayish black to dark red and range from 1 to 3 mm in size. The beads were found in six samples over distant corners and different floors of the room yet the possibility of whether they all originate from a single broken necklace remains.

TELL KURDU FAUNAL ANALYSIS

Michelle Loyet and Frank Nardulli

Introduction and Methodology

In this analysis, we present a general account of the Tell Kurdu faunal materials, as well as a discussion of the differences between the faunal assemblages from 2001 and previous seasons. Several aspects of the data will be discussed including the relative abundance of the species present in the faunal assemblage, the mortality profiles of the various taxa and the food utility indexes of the sample.

While species distribution, or the relative abundance of species present in a faunal assemblage can provide indications on the composition of the pastoral economy (including relative reliance on domestic and wild fauna, the types of domesticates produced), mortality profiles offer insights in herd management. Most importantly, through mortality profiles we are able to determine whether animals were intended for use as food resources, or whether they were used for traction, hides, milk, or in the case of sheep, wool. Mortality curves can be constructed using a variety of data, including tooth eruption and wear as well as epiphyseal fusion of long bones. Tooth wear can estimate the age of the animal at death, as tooth wear is an ongoing process. Epiphyseal fusion only indicates that the animal survived long enough for the epiphysis in question to fuse, but not how long the animal subsequently survived.¹¹

¹¹ Ages at death based on tooth eruption and wear were determined using methods outlined in Deniz and Payne (1982), Grant (1982), and Levitan (1982); see also the appendices of Hillson (1986). In the cases where epiphyseal fusion was used to determine the age at death, data from Silver (1969) and Noddle (1974) were used. The construction of tooth survivorship curves was done using methods outlined in Zeder (1991) and Redding (1981). Long bone survivorship curves were computed using a method developed by Redding (1981: 248) that calculates fusion scores based on the proportion of bones that are fused or fusing, versus those that are unfused, in each age class. Those bones that have the same latest age at fusion are combined in to a single age class.

A third aspect of the faunal assemblage to be discussed in this report is the determination of the food utility of the body parts in question. Using the modified general utility index (MGUI) developed by Binford (1978) and refined by Lyman (1994), we are able to measure the amount of meat (weight of fat and muscle tissue), marrow (volume of the marrow cavity multiplied by the percentage of fatty acids present in the marrow), and grease (volume of the cancellous skeletal material multiplied by the percentage of fatty acids present in the marrow) associated with the samples. This produces indices of the food utility for each of the carcass parts for human consumers. After these values are altered to account for low-value parts such as metapodials that may appear in the archaeological record as “riders” being brought to the site attached to high-value parts, they are normed to a scale of 1 to 100, resulting in the percentage modified general utility index (%MGUI) (Binford 1978; Lyman 1994).

Likewise, to measure the abundance of carcass parts, we follow traditional zooarchaeological procedure (Lyman 1985, 1994) and use %MAU (minimum numbers of animal units) for each anatomical part (e.g., proximal humerus, distal metacarpal). The MAU is calculated as the minimum number of those elements (MNE) present in a collection, normed by dividing that value by the number of times that element occurs in one complete skeleton (Lyman 1992). It does not take into account side or ontogenetic age differences in the initial counting of the element, but the resulting values MAU do indicate which carcass portions are more or less abundant than others. For analytic and graphing purposes, the MAU is normed to a scale of 1 to 100 and is referred to as %MAU.

The Tell Kurdu Assemblage

Two different faunal assemblages are used in this study: the assemblage from the excavations in Trenches 12 and 16 in 1999 (Yener et al. 2000b: 78-80; Loyet 2003), and the assemblage from the 2001 season. While the 1999 assemblage includes a mix of screened and unscreened samples, in 2001 nearly all contexts were screened. In addition, whereas the 1999 sample is comprised of Amuq C materials with an admixture of Amuq D materials from later pits and plowed contexts, the 2001 sample is exclusively from secure Amuq C contexts, mostly from residential deposits. Variability between these two assemblages is thus expected, as both screening and differences in periodization can introduce biases.

The differences in screening between the two seasons are apparent in the average specimen sizes; while the average for the 1999 sample was 7.34 grams, this value fell to 2.36 grams in the 2001 sample. However, experiments carried out by Shaffer (1992:129-136), demonstrate that even sieving with a 5 mm mesh result in the nearly complete loss of animals less than 140 grams in weight (see also Watson 1972). It is expected then, that considerable portions of the microfaunal remains are absent from the assemblage, particularly smaller mammals, fish, and birds. In fact, microartifact analyses conducted by Rana Özbal demonstrate that 334 remains of fish and 99 fragments of bird were recovered in the 510 liters of soil screened to date using a 1 mm mesh (Özbal, personal communication). These numbers are considerably higher than values attained for fish and

bird in the macro samples. However, for reasons of consistency and inter-site comparability, faunal remains recovered from microartifact analyses will not be included in this analysis.

The size of the 2001 assemblage indicates that it may be less subject to biases than the smaller 1999 sample (table 12). In addition to the above listed factors, perhaps the most important reason for why the 2001 sample is thought to be more reliable is that the material comes from secure residential Amuq C contexts, including room and streets deposits.

In the Amuq C Phase, about three fourths of the diet is derived from domesticates, although wild animals including cervids, gazelle and fish played a significant role in the subsistence of economy (table 13). Mammalian domesticates present in the assemblage include sheep and goat, cattle, and pig. Wild cattle was also identified in mixed contexts. Other taxa such as equids, may also be domestic, but are not present in great enough numbers to contribute significantly to the pastoral economy. For the purposes of this analysis, sheep and goat have been combined into a single taxonomic category, ovicaprines. Table 13 shows that ovicaprines and cattle represent a large proportion of both assemblages. Cattle, however, may represent a much more important resource. Their larger size allows for their use as draft animals, as well as producing greater amounts of milk and yielding more meat. Cattle most likely provided the majority of the meat consumed at Tell Kurdu. Even the most conservative meat yield estimates suggest that cattle yielded over 8 times more meat than sheep or goat (Clark 1993). Pig (*Sus*), is the only other domesticate.

This leaves a large portion of the assemblage to be accounted for. While some of the remaining taxa, including gastropods, carnivores, and rodents, may not represent food resources, the more common wild taxa most likely do, especially cervids, gazelle, and fish. Cervids are especially abundant in forest edges (McCorriston and Hole 1991:57) and the high quantities of cervids at Tell Kurdu suggest that the region may have been forested. Aquatic resources such as fish, turtle, and bivalves would have been easily obtainable in the vicinity of Tell Kurdu. The fish have not been entirely identified, but preliminary analysis shows that the most common piscine taxa by far is catfish (*Clarias* sp.), which live in low-oxygenated water (Brewer 1987). Geomorphological investigations indicate the presence of nearby pools and marshes in the sixth millennium BC (Wilkinson 2000: 174-177).

A large proportion of wild animals (comprising nearly one quarter of the 2001 assemblage) is not entirely unexpected, as similar patterns can be seen at the same time in the Khabur Valley, in eastern Syria. In the southern portion of the Khabur, Zeder (1995, 1998) has examined the fauna from a number of sites, spanning from the 6th to the 2nd millennium BC. In comparing proportions of wild to domestic fauna from these sites, it can be seen that there is a fairly diverse use of animal species from the 6th through the 4th millennium BC, with wild fauna representing as much as 40% of the overall assemblage. It is not until the beginning of the 3rd millennium where a steady increase in the percentage of domestic fauna is apparent. Cavallo's overview of the subsistence economies of Halaf sites in which each settlement's faunal assemblage is summarized

(1997:21-30) also suggests great diversity over the Near East at this time (also cf. Akkermans 1993:250-268).

Age and Mortality Data

This section presents two types of age data: mortality curves based on tooth wear data, and survivorship curves based on epiphyseal fusion. It must be noted that the age mortality data presented here are from the 1999 sample and may not be entirely representative of the Amuq C Period (see above).

As can be seen in the ovicaprine mortality profile based on tooth eruption and wear data (fig. 16A), very few animals were culled at a young age, with a peak in culling possibly coinciding with maturation or reaching full growth. Beyond this, there is a steady drop-off in culling. This may indicate a possible focus on milk or wool production, but with meat still playing a dominant role. In the case of the survivorship curve based on epiphyseal fusion (fig. 16B), there is a drop in survivorship after the 24-month stage. This coincides with the peak in culling in the mortality curve, again indicating a slightly older population than would be expected if only meat production were the aim, but is not indicative of any extensive production of secondary products, such as milk and wool.

With profiles 16A-B, interpretation is difficult due to variation in the intervals. However, when the information is re-plotted as number of deaths per year (fig. 16C) to account for this, we can see that as opposed to a peak in death at the 1-2 and 2-3 year range, there is rather a sharp decline in number beyond the first years of life. This also indicates a possible focus on production of secondary products.

In the case of cattle, a survivorship curve based on epiphyseal fusion was constructed, because it was not possible to create mortality curves due to the lack of complete mandibles in the Amuq C assemblage (fig. 16D). One notes a drop in cattle survivorship after three years, but with significant portions of the population surviving beyond that point. This may be indicative of a focus on both meat and dairy production. Given the presence of the pools and marshes, the area around Tell Kurdu would have been fairly well watered, creating an amenable environment for raising cattle. It would have been a reliable source of meat as well as milk for the population of Tell Kurdu.

For pig, like in cattle, only survivorship data was available, due to lack of complete mandibles (fig. 16E). As is illustrated by the survivorship curve, there is a drastic drop in survivorship at approximately 2 years. Pigs represent a fast maturing, high fat, and high-calorie meat source (Pollock 1999:105), and offer no secondary products such as milk, wool, and traction. However, with their large litters, and flexible diet, they are an excellent source of food, even given their high water requirement and sensitivity to heat (Zeder 1991:28-31).

Body Part Distribution

To determine the type of resource strategies used at Tell Kurdu and to identify the level of specialization in the subsistence economy, the distribution of both sheep/goat and cattle %MAU versus the %MGU were plotted in a scatter-plots (Binford 1978; Lyman 1994). The 2001 faunal sample was used for this study. The scatter-plots both for

sheep/goat (fig. 16F) and for cattle (fig. 16G) show a reverse L-shaped curve, known as the gourmet curve, with few low-value specimens and many high-value units. This pattern suggests that the sheep/goat and cattle body-part distributions are the result of food waste. If butchery as well as consumption were taking place within the excavated spaces, we would expect to find both high and low-value bones in similar quantities. Spearman's rho between the skeletal part frequencies and their structural density for the ovicaprine assemblage is insignificant ($\rho = 0.3108$, $P = 0.2247$), indicating that there is no evidence for density-mediated destruction that may bias body part distribution. Similarly, there is no evidence for density-mediated destruction in the cattle sample ($\rho = 0.0896$, $P = 0.7071$). These findings are in accordance with that of a residential area and suggest either that butchery took place in a separate location or that butchery waste was deposited elsewhere.

Conclusions

The excavations at Tell Kurdu offer a glimpse into a settlement at a time when social and political hierarchies were developing. Based on the data, it would seem that during the Amuq C Phase at Tell Kurdu, the residents were practicing a diverse and generalized subsistence strategy, relying neither entirely on domestic nor wild fauna. Even within the domestic fauna, there is no clear preference for any single taxon. These generalized subsistence practices are mirrored in the mortality and survivorship data available for the three main domestic taxa. It would appear that the residents were focusing on subsistence products rather than production of secondary products, especially given the mortality data for cattle and ovicaprines. Excavated contexts to date have yielded primarily food waste, and it is presently unknown where in or around the settlement butchering took place.

TELL KURDU SHELLS

David S. Reese

To date, all Tell Kurdu shells ($n=371$) recovered from the 1996, 1998, 1999, and 2001 seasons and dating to Amuq Phases C, D and E have been analyzed. Considering that Kurdu is at least 40 km from the easiest accessible coast, it is not surprising that only 24 % of the total is marine shell. These imported items appear mostly to have had ornamental uses. Freshwater shells are by far the most common at Tell Kurdu and comprise 63% of the assemblage. The remaining 13% includes several species of land snails. Geomorphological investigations suggest the presence of a nearby lake at the time (Wilkinson 2000:174-177), so presumably freshwater shells could have been collected in the vicinity.

This brief report will mainly focus on shells from secure Amuq C levels. A complete report comparing Amuq C, D, and E shell assemblages is forthcoming (Reese forthcoming). Excavations in Amuq C levels have yielded marine shells including gastropods, bivalves, and scaphopods. Among the gastropods, are *Murex trunculus*, *Columbella rustica*, *Conus mediterraneus*, *Arcularia gibbosulus*, *Monodonta turbinata*,

Neverita josephina, and *Ancilla*. By far the most common gastropod present during the Amuq C Phase is *M. trunculus*. The Braidwoods also discovered a specimen of this species at Tell Kurdu (Braidwood and Braidwood 1960:174). Excavations from the subsequent Amuq D and E Phases yielded several additional marine gastropod species including *Thais haemastoma*, *Cerithium vulgatum*, and *Luria lurida*. Although less abundant, marine bivalves recovered in Amuq C levels include *Cerastoderma edule*, *Glycymeris* and *Donax trunculus*. Additionally, the scaphopod *Dentalium* and particularly *D. dentalis*, appears to have been the preferred raw material for shell beads (fig.13: 5).

Two types of freshwater shells dominate the assemblage: *Unio*, an edible bivalve and *Melanopsis*, a gastropod. Interestingly, there appears to be a decline in the quantity of freshwater shells in Amuq Phases D and E. In Phase C, freshwater shells comprise the majority of the assemblage, with *Unio* being most common. The presence of this species at Tell Kurdu was also noted by the Braidwoods (Braidwood and Braidwood 1960:225).

The final category of shells found at Tell Kurdu consists of land snails, which are probably found naturally in the archaeological deposits. Two types of land snails are most common, namely the edible *Helix* and much smaller *Oxychilus*.

ARCHAEOBOTANICAL REPORT FOR THE 2001 TELL KURDU SEASON Heidi Ekstrom

Compared with previous seasons, the 2001 excavations at Tell Kurdu yielded little botanical material. This is partly because many of the analyzed samples are derived from small deposits that do not typically yield large quantities of charred seed remains. A total of 46 samples were collected and processed during the course of excavation, 10 of which were analyzed. As can be seen in Table 14, the botanical samples selected for analysis, which yielded 212 seeds and plant parts, are from room deposits, and inside *in situ* vessels, ovens, and bins. These contexts prevented the collection of 40-liter samples as in past seasons (Ekstrom 2000:81). Instead, sample size for the 2001 season averaged approximately 6.5 liters. Cereal species include *Hordeum vulgare*, *Triticum dicoccum*, *T. boeoticum*, and several fragments of indeterminate *Triticum* species (n=3). Large legumes such as *Cicer arietinum* (chickpea), *Lens culinaris* (lentil), and *Pisum* (pea) were not identified, though many (n=25) poorly preserved large legume fragments are present. Numbers are minimal, but other notable taxa include *Ficus* (TK 6651), and *Linum* (TK 8015). Weed seeds were also present and consist of two genus of clover and several other species common to archaeobotanical samples in the region (table 14).

Additionally, wood charcoal was present in most of the analyzed samples, but in very small amounts. Unfortunately, the wood fragments were too minute to identify to species level with any measure of confidence. Two unsorted samples (TK 8423 and TK 8814) were briefly looked at and contain large quantities of charred wood remains. Preliminary observations classify these fragments as hardwoods, however wood remains were not a focus of this analysis.

Despite the small quantity of seed remains collected during the 2001 season, remains from Tell Kurdu not only compare nicely with other contemporaneous sites, most notably, Ras Shamra (Van Zeist and Bakker-Heeres 1984-86), and Girikihaciyan (Van

Zeist 1979-80), but they are also consistent with findings of previous excavation seasons (Helbaek 1960, Ekstrom 2000). Further sorting of samples may add to the overall assemblage of botanical material present during occupation. However, it is unlikely that any significant new information will be obtained given the small sample volumes.

THE TELL KURDU HUMAN BURIALS

Fokke Gerritsen and Sabrina Sholts

During the 2001 season twelve human burials and one dog burial was found in the North Mound operations. Three additional burials, which were found in Trench 12 in 1999, are included in this report (Edens and Yener 2000b, 43). All burials contain the remains of single individuals. This report describes general aspects of the burials but does not aspire to be an exhaustive report on the burial practices. Age determinations await analysis by a physical anthropologist. For the method of sexing human remains using DNA analysis, see the report in this article by Nitzan Mekel-Bobrov and Bruce Lahn. In this report, the Trench:Locus number combination is used to identify the burials. The locations of the graves are shown in the plans (figs. 2-5).

Sorted by stratigraphic positioning, the graves can be grouped as follows. Burials 12:81 and 25:8 are contemporary with the main Amuq C occupation level; burials 12:14 and 25:89 may also be, given their positioning in relation to the architecture, although there are no stratigraphic controls to confirm this. Burials 25:80 and 22:2 are stratigraphically later than the main occupation level, but their grave goods indicate an Amuq C date (fig. 8:1). The placement of burial 25:80 against the outside of a wall of room R39 further suggests that it could belong to a phase when the building was still in use or had recently been abandoned. For burials 12:12, 12:13, 23:10, 24:27, 24:16, 26:2, 26:12, the stratigraphic information indicates that they probably or certainly post-date the main occupation level, but whether they date to the Amuq C, D or E phase is uncertain. Burial 26:12 contained pottery of shapes that are not common in the assemblage of the main occupation level but that judging from the fabric and paint could well date to the Amuq C phase. Finally, burials 23:11 and 24:3 can be dated to the Amuq E phase, both on stratigraphic grounds and typological characteristics of the grave goods. Three more burials of Amuq E date were found in Trench 4 in 1998, about 100 meters to the east.

The frequent occurrence of graves directly below the plow zone, and in some instances the damage suffered by the graves from recent agricultural activities, suggests that other graves may have been completely lost. This is confirmed by farmers who witnessed the leveling of this part of the mound in the 1970s (when by their estimate 50 centimeters was shaved off the northern part of the mound). The possibility exists that these were part of an Amuq E cemetery on the northern, then uninhabited, part of the mound.

Burial practices

Burial 12:81 represents a form of interment common at Tell Kurdu (fig. 4A). The body of a male is placed in tightly flexed position in a simple pit. There are no grave

goods. The grave is located inside room R06, cut into a plastered floor and sealed by a later floor. Adult burial 12:14, found at a higher level in the same room, was flexed and placed in a simple pit as well (cf. Edens and Yener 2000b: 43). DNA analyses confirmed that this individual was also male. Although disturbed by recent plowing, the position of the burial pit in a corner but not cutting the walls of the structure suggests that this burial either dates to a late occupation phase of the room, or to a phase before the wall remains were covered by later deposits. Similarly, burial 25:89 is a flexed burial placed in room R45.

Burial 25:8 represents a very different type of grave, a cremation burial. DNA analysis determined that it was a female. The cremation remains had been placed in a jar (fig. 6:7). There were no grave goods inside this jar, but it occurred together with a painted bowl (fig. 8:7) and a small narrow necked vessel (fig. 7:9). This cluster was found within the bonded walls of the northeastern corner of room R39, indicating that the urn and accompanying jars were placed inside the wall as it was erected. This suggests a form of foundation deposit for which, as far as we are aware, there are currently no parallels from this period. The section on the architecture above discusses other features of room R39 that indicate it may have served specific social or ritual practices. The possibility that the jars were placed here after the building was abandoned and leveled cannot be ruled out on stratigraphic grounds but is highly unlikely, given the complete absence of a visible pit cutting into the mudbrick wall or other signs of damage to the courses of the wall at the level of the jars. No other cremation burials occur in the 2001 trenches, but a cremation of probable Amuq C date was found in trench 7 in 1998 (Edens and Yener 2000a, 47).

Three burials (12:12, 26:12, 24:16) are jar burials containing newborns or infants. Burial 26:12 in room R54 (and possibly related to a late occupation phase of this room) yielded an infant with flexed legs covered by a large oval bowl. A miniature painted jar was found in the direct vicinity of the bowl. In the other two cases, the skeleton was placed inside the jar.

Burial 24:3 dating to the Amuq E period is the only burial that is not placed in a simple pit. The rectangular grave is lined by mudbricks of which one course was preserved.

Grave goods do not occur in large numbers. Amuq C or undated burials contain maximally two ceramic vessels, and only Amuq E burial 23:11 contains 3 painted vessels (bowl, cup and a jar that contained a few legumes; ident. H. Ekstrom). Four burials contain no grave goods. Beads or other items of personal adornment are entirely absent. Three interments were given animal parts as grave goods. Burial 25:80 (of a sub-adult or adult male) contained a partial cattle mandible placed over the mouth of a jar (fig. 6:9). Burial 24:27 (a female) contained a small horn core, while burial 23:10 may have included several astragali of a medium-sized mammal, but the grave pit and contents were too disturbed to be certain about their position inside the grave. Only the lower leg bones of the person were preserved. The contents of grave 12:14 also suffered from recent plowing, but contained at least five sling pellets of unbaked clay and a bone awl.

The small sample size and the time range represented by the burials from Amuq C to Amuq E makes it hazardous to make statements about patterns in the burial practices.

If anything, the burials excavated so far demonstrate the variability in the Late Neolithic or Early Chalcolithic burial practices also noted by Akkermans (1989).

ANCIENT DNA ANALYSIS OF HUMAN REMAINS FROM TELL KURDU

Nitzan Mekel-Bobrov and Bruce T. Lahn

Introduction

In the almost two decades since the first extraction of ancient DNA in 1984 by Higuchi *et al.*, the analysis of ancient DNA has been transformed from a singular achievement to routine practice. With the explosion of new techniques in molecular biology, most notably the Polymerase Chain Reaction (PCR), and increasingly stringent protocols of avoiding contamination by exogenous molecules, ancient DNA analysis is now able to yield reproducible results with a high degree of certainty. Consequently, analysis of DNA from ancient human remains is becoming increasingly common as one of the many tools wielded by archaeologists in their investigation into the past.

In the present study, we examined the Hypervariable Region I (HVRI) of the mitochondrial genome, and a homologous portion of the amelogenin gene on the X and Y chromosomes, in 14 individuals interred at the site. Our objective was two-fold. First, we were interested in identifying the sex of these individuals, since the morphological data was largely ambiguous due to poor preservation. DNA analysis can provide a powerful alternative by testing for the presence of either XX (female) or XY (male) chromosome combinations. Second, we were interested in determining the amount of genetic diversity at the site in order to ascertain the overall degree of relatedness among these individuals. Mitochondrial DNA (mtDNA), which is inherited exclusively through the mother but is present in both males and females, can be used to address this question.

Materials and Methods

DNA Extraction

DNA extraction was attempted from 3 long bones for each of the 14 individuals. The surface of each bone was removed to a depth of 0.2 cm and 1g of bone powder was produced from the shaft. DNA was extracted in two stages: a 96-hour incubation period in a solution of 5µl 0.5 M EDTA, 300µl 10% SDS, and 300µl 20 mg/ml Proteinase K at 37°C; and a 12-hour incubation period in a 1ml guanidinium thiocyanate solution at 55°C. Purification was carried out with glassmilk beads in the presence of guanidinium thiocyanate.

Amplification

Molecular sexing was carried out by PCR amplification of a portion of the amelogenin gene (Sullivan *et al.* 1993), yielding differentially sized fragments on the X and Y chromosomes of 106 and 112 base pairs respectively. The PCR product was run out on a 5% NuSieve agarose gel for 120 minutes, and visualized under UV light. The presence of a single band signaled two X chromosomes, while the presence of two bands

signaled one X and one Y chromosome. HVRI of the mitochondrial control region was amplified and sequenced in three overlapping fragments to minimize the size of the PCR products.

To avoid contamination all extraction and amplification procedures were carried under sterile conditions following standard protocol. See Cooper and Poinar (2000) for details.

Results and Discussion

Results from the sexing and mtDNA sequence analysis are summarized in Table 15. Only reproducible results are included here. Results were considered reproducible if they were obtained at least twice from two independent extracts, each from a different bone. Of the 14 individuals analyzed, 9 yielded results for the amelogenin sexing assay, while 11 yielded complete HVRI sequences.

The data on the sex of the individuals interred at Tell Kurdu may yield interesting findings in future studies of burial distribution at the site, potentially linking the concept of gender to other categories of identity, such as class, kinship, and family. With a success rate of 64%, this study demonstrates that molecular sexing assays may be a valuable contribution to analyses of human remains when morphological features are ambiguous.

The mtDNA analysis yielded a relatively high success rate of 78%. This data can be informative on two fronts. First, it may be used to gain some insight into the kinship structure at the site. A total of three distinct haplotypes were identified in the sample of 11 individuals, the sequence of each is listed in Table 15. Since mtDNA is inherited exclusively through the mother, these haplotypes correspond to three distinct maternal lineages. The burial distribution of these lineages may prove informative in future studies. Second, analysis of several diversity parameters may shed some light on the total degree of relatedness among these individuals. Results of this analysis are summarized in Table 16. Data from several modern populations in the region are included for comparative purposes.

It is beyond the scope of this report to go into the details of interpreting these results. It should be noted, however, that the amount of genetic diversity at the site is significantly lower than in modern populations in the region. This is significant in two ways. First, the reduced number of haplotypes relative to sample size is likely the result of immediate family relations among some of the individuals at Tell Kurdu. Second, the low values for both the sequence and nucleotide diversity strongly suggests that the separate lineages (perhaps corresponding to families) are themselves highly related to one another.

DISCUSSION AND CONCLUDING REMARKS

Rana Özbal and Fokke Gerritsen

Our investigations at Tell Kurdu have two long-term goals: our primary concern is to understand the settlement and community of Tell Kurdu and its development through time at the intra-site level. Secondly, our research considers regional and inter-regional

relations between Tell Kurdu and contemporaneous sites in Anatolia and Northern Mesopotamia.

The 2001 excavations have brought a new focus to the Tell Kurdu Project permitting detailed intra-settlement investigations. While previous seasons sampled Amuq C, D and E occupation in different parts of the mound with general and stratigraphic questions in mind, the aim in 2001 was to concentrate on a single area in order to uncover a wide horizontal exposure. The concerted efforts on a single occupational level build on the groundwork of the previous seasons and allow for a finer level of inquiry. Our intra-site research includes social, political, and economic investigations at the level of household and community.

The exposed settlement plan shows considerable spatial complexity and differentiation in the layout of various areas. In Area F, for example, each room is lined up along the street with its doorway facing the alley, while in Area A and Area G we see clustered complexes around courtyards with little respect to the location of the street. In Area E, one finds two large buttressed rooms with plastered walls that appear to be different both in their architectural plans and in the care involved in their construction. Using contextual methods, we hope to gain insight in the meaning of this variability. Results of our preliminary analyses of the microartifacts and the chipped stone – for which the breakdown by room is already yielding interesting patterns – are contributing to our efforts to understand the nature of various rooms and areas and the dynamics between different areas of the settlement. Continuing analyses of the spatial distribution of these artifact categories as well as ceramics, small finds, shell and faunal and botanical remains, and results of micromorphological and soil chemical analyses, along with additional radiocarbon dates will contribute further towards this endeavor.

In addition to site-specific analyses, Tell Kurdu's location is also conducive to investigating the settlement in its broader cultural and geographic setting. Located in the boundary zone between the Halaf realm and societies of the Anatolian Late Neolithic/Chalcolithic, the sixth millennium settlement at Tell Kurdu appears to have appropriated elements of both these cultures. Architecturally, the site appears closer to the clustered rectangular buildings of the Later Neolithic and Chalcolithic of Anatolia,¹² and less like some Halaf or Halaf-influenced settlements, where rectangular structures are nearly always found in combination with tholoi.¹³ Yet, Halaf painted pottery and local imitations of Halaf pottery are clearly attested at Tell Kurdu (figs. 8, 9)¹⁴. It should be

¹² Such as at Mersin (Garstang 1953: fig. 79); Can Hasan II (2; French 1998: fig.11); Köşk Höyük (Özcan 2002: 56); Güvercinçayası (Gülçur 2003: 506-507); Çatalhöyük East (Mellaart 1967: fig. 9); Tülintepe (Özbaşaran 1992: fig. 26), and Değirmentepe (Esin and Harmankaya 1988: fig. 2).

¹³ Such as at Arpachiyah (Mallowan and Rose 1935: fig. 13); Sabi Abyad Level 3 (Akkermans 1993: fig. 3.12); Yarım Tepe III (Merpert and Munchaev 1984: pl. 2); Tell Turlu (Breniquet 1991: 25); Khirbet esh-Shenef (Akkermans and Wittmann 1993: fig. 5); Girikihacıyan (Watson and LeBlanc 1990: fig. 2.15); Fıstıklı Höyük (Pollock et al. 2001: fig. 2, 3); and Çavi Tarlası (von Wickede and Herboldt 1988: fig. 2).

¹⁴ See also Esin and Arsebük 1982: 132 for a settlement with a similar combination of Anatolian/Halaf attributes.

noted however that the percentage of painted wares at Kurdu is considerably less than at most Halaf sites (table 4; Campbell 1992:61, Watson and LeBlanc 1990:135).¹⁵

Absolute dates also play an important role in understanding Tell Kurdu's interregional connections. The radiocarbon results discussed in this report provide an earlier date for the Amuq C phase than hitherto thought and could prompt a reconsideration of the temporal as well as cultural relationships between the Amuq Valley and Northern Mesopotamian Halaf settlements. With the exception of the two dates both from room R39, the level dates to ca. 5900-5700 cal. BC and is contemporaneous with the end of the Early Halaf Period and/or the beginning of the Middle Halaf Period (Campbell 1992:61-97; see absolute chronology section and table 1).

Future investigations on other aspects of life at Tell Kurdu will continue to shed light on the dynamics of cultural interaction. Most importantly, our research will continue to address the local settlement at the household level to explore issues of intra-site variability and to gain insights into the social, economic, and/or political relationships in the composition of this community.

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¹⁵ Such as at Arpachiyah (Hijara 1997: 68); Yarim Tepe II (Merpert and Munchaev 1993a: 152); Sabi Abyad (Le Mièrre and Nieuwenhuyse 1996: 176), and Halaf-related sites such as Domuztepe (Campbell et al. 1999: fig. 13); Fıstıklı Höyük (Pollock et al. 2001: fig. 15). But cf. Girikihacıyan (Watson and LeBlanc 1990: 68).

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APPENDIX – CATALOGUE OF FIGURES¹⁶**Figure 6. Ceramics: dark-faced burnished wares.**

TK/pot ID. Provenience. Ware. Diameter and degrees preserved. Firing. Inclusions. Surface color. Surface treatment. Lower boundary of burnishing indicated by double line.

6.1: TK8385/p1466. R39 (25:88, interior floor). DFBW. Ø 12.5cm, 360°. Calcite, fine grit. Ext. surf. 10yr2/1, core 10yr7/4. Burnt bottom, badly encrusted. **6.2:** TK6101/p1234. S68 (21:2, street). DFBW. Ø 12cm, 27.5°. Oxidized. Light grog. Slipped. Exterior surface 2.5yr4/1, core 7.5yr5/4. Burnished exterior and interior lip. **6.3:** TK3430. R06 (12:26, interior floor). DFBW. Ø 42cm, 30°. Reduced core; oxidized exterior and lip. Fine mineral. Exterior black burnish to line; interior black burnish on rim to line. **6.4:** TK6998. R39 (22:44, interior floor). DFBW. Ø 14.5cm, 360°. Oxidized core, reduced surfaces. Light fine sand. Black burnishing interior and exterior rim to line. **6.5:** TK7503/G. S73 (26:3, street). DFBW. Ø 36cm, 30°. Oxidized core. Common fine sand. Dark gray int. surf, reddish brown core. Ext. surf. lustrous black burnish to line. **6.6:** TK8197/F. R58 (26:40, possibly from intrusive pit). DFBW. Ø 32-34cm, 20°. Common fine sand. Slipped. Surfaces 2.5yr4/6. Burnished interior. **6.7:** TK8566. R39 (25:8, burial). DFBW. Ø 9cm, 360°. Oxidized core. Common fine sand. Dark brown to dark gray burnishing int. lip and ext. surf to line. **6.8:** TK5512. (22:2, burial cut into street). DFBW. Ø 13cm, 360°. Reduced. Light fine sand. Int. surf. 7.5yr5/2, ext. surf. 7.5yr4/1. Lustrous black burnishing int. and ext. to line. **6.9:** TK8453. (25:80, burial). DFBW. Ø 10cm, 360°. Light mineral. Surfaces 2.4yr4/6 to 2.5yr2.5/1. Reddish black burnishing int. and ext. to line. **6.10:** TK8255. R44 (25:34, above courtyard floor). DFBW. Ø 20cm, 360°. Reduced. Surfaces very dark gray to black. Light burnishing ext. neck and shoulder. **6.11:** TK8066. R51 (25:65, interior floor). DFBW. Ø 23cm, 360°. Core 10yr5/2. Int. and ext. surface below burn. 10yr6/2. Lustrous burnishing on int. lip and ext. to line, 7.5yr3/1.

Figure 7. Ceramics: dark-faced unburnished wares.

TK/pot ID. Provenience. Ware. Diameter and degrees preserved. Firing. Inclusions. Surface color. Surface treatment.

7.1: TK2489. R12 (12:21, room deposit). DFuBW. Ø 16cm, 110°. Sand inclusions. Fully reduced. **7.2:** TK8148/A. R05 (12:69, deposit above floor in room). DFuBW. Ø 24cm, ca. 40°. Common fine sand. Reduced core. Dark gray int. surface, dark gray to dark reddish brown ext. surface. **7.3:** TK7875/F. R30 (23:29, room deposit). DFuBW. Ø 30cm, ca. 30°. Reduced core. Common very fine shell. Int. surf. 10yr5/1, ext. surf. 10yr6/2. Sandpaper-like texture. **7.4:** TK3054. R11 (12:19, fill deposit). DFuBW. Ø 46cm, 25°. Dark gray/brown paste, with gray core. Coarse grit (probably sand) inclusions. **7.5:** TK7875/G. R30 (23:29, deposit above floor in room). DFuBW. Ø 42cm, 40°. Reduced core. Abundant fine sand. Int. surf. 7.5yr4/1, ext. surf. 7.5yr3/1. Sandpaper-like texture. **7.6:** TK7891/T. R30 (23:29, deposit above floor in room). DFuBW. Ø 48cm, 60°. Reduced core. Abundant fine mineral. Surfaces 10yr3/2 to 7.5yr3/1. Sandpaper-like texture. **7.7:** TK8065. R51 (25:65, interior floor). DFuBW. max. Ø mouth 10cm, 360°. Oxidized gray core. Fine mineral (grit?). Surfaces 10yr6/2. Spalled ext. surface. Oval section, probably continued use after loss of neck. **7.8:** TK8693. R40 (25:85, from oven). DFuBW. Ø 9cm, 360°. Oxidized core, 10yr6/3. Rare fine sand. Surfaces 10yr7/2 to 10yr5/2. **7.9:** TK8567/p1444. R39 (25:8, burial). DFuBW. Ø 8cm, 360°. Reduced core. Spalled ext. surface.

¹⁶ Illustrations were made by Mücella Erdalkıran and Fokke Gerritsen. Fig. 1 has been adopted from plan by P. Zimmerman.

Figure 8. Ceramics: painted wares, whole vessels.

TK/pot ID. Provenience. Ware. Diameter and degrees preserved. Firing. Inclusions. Surface color. Surface treatment.

8.1: TK5460. (22:2, burial cut into street). Halaf Painted. Ø 10cm. Oxidized. Light calcite, medium grit. Core 5yr6/6, paint 5yr3/2. **8.2:** TK5948/p1077. R19 (21:18, interior floor). Local painted/monochrome ware. Ø 9cm, 360°. Fully oxidized. Exterior surface 10yr8/3; paint 10yr3/2. Heavy concretions in interior. **8.3:** TK8525/p1467. R05 (12:69, interior floor). Local Painted. Ø 16cm, 100°. Fully oxidized. No visible inclusions. Exterior surface 7.5yr7/4, exterior paint 10r4/4, core 5yr6/6. **8.4:** TK6447. R07 (12:65, *in situ* from within bin in courtyard). Local Painted. Ø 20cm, 360°. Light fine sand. Surfaces 5yr7/5, paint 2.5yr4/8 (comp. Akkermans 1988b: pl. 13:96). **8.5:** TK8064. R51 (25:65, interior floor). Local Painted. Ø 12cm, 360°. Fully oxidized. Rare fine sand. Surfaces 5yr7/4, paint 2.5yr5/8. **8.6:** TK8138. R05 (12:69, interior floor). Local Painted. Ø 27cm, 360°. Oxidized, core 5yr5/6. Abundant fine mineral. Surfaces 5yr7/4, paint 10r5/8 (comp. Merpert and Munchaev 1993b: fig. 9.31:4-5). **8.7:** TK8569/p1442. R39 (25:8, burial). Halaf Painted. Ø 12,5cm, 360°. Oxidized. Light grit inclusions. Exterior surface 7.5yr8/6, exterior paint 10r5/8. Slipped.

Figure 9. Ceramics: examples of painted sherds.

TK/pot ID. Provenience. Ware. Diameter and degrees preserved. Firing. Inclusions. Surface color. Surface treatment.

9.1: TK7891/L. R30 (23:29 deposit above floor in room). Painted ware. Ø 11cm, 40°. Fine mineral. Ext. surface 5yr7/4, int. surface 2.5yr6/6, lustrous dark red paint. **9.2:** TK5623/p1078. S68 (21:2, street). Halaf painted/Red on buff/pink. Ø 9cm, 120°. Grog tempered, with possible grit, dung, and calcite inclusions. Exterior surface 7.5yr8/4; paint 7.5yr4/4 (comp. Bernbeck et al. 1999: fig. 11b). **9.3:** TK4756/Z. R13 (16:22, deposit above floor in room). Painted ware. Ø 26cm, 10°. (comp. Hijjara 1997: fig. 373; Nieuwenhuyse 1997: fig. 3.1). **9.4:** TK7576/A. R53 (26:21, interior floor). Painted ware. Reduced core. Rare fine sand. Surfaces 7.5yr5/2, black paint. **9.5:** TK8219/O. R30 (23:29, deposit above floor in room). Painted ware. Ø 15cm, 22°. Oxidized. Rare fine sand. Surfaces 10yr7/3, dark reddish brown paint (comp. Davidson and Watkins 1981: fig. 2.2; possibly also Mallowan 1936: fig. 23.3). **9.6:** TK8799/B. R53 (26:34, interior floor). Painted ware. Ø 6cm, 130°. Oxidized. Rare fine sand. Surfaces 10yr8/3, black paint (comp. Akkermans 1988b: fig. 128; Akkermans 1993: fig. 3.30/7; Gustavson-Gaube 1981: fig. 147). **9.7:** TK7713/K. R53 (26:10, interior floor). Painted ware. Ø ca. 22cm, 45°. Well fired, clinky. Common fine sand. Pink surfaces, light red core, paint 2.5yr4/6 (comp. Contenson 1992: fig. 190:3; Mallowan and Rose 1935: fig. 60:4). **9.8:** TK 8101/I. R08 (12:86, deposit above floor in room). Painted ware. Ø 26cm, 34°. Oxidized. Surfaces 10yr7/3. Slipped? Black paint. **9.9:** TK6181/X. S73 (22:16, street). Painted ware. Ø 25cm, 10°. Fully oxidized. Abundant fine sand. Ext. surface 10yr8/2, int. surface 5yr7/3, paint 7.5yr2.5/3. **9.10:** 8315/R, 8165/J and others. R58 (26:40, pit in room, possibly later/intrusive). Ø 42cm. Painted ware. Oxidized. Common fine sand. Surfaces pink, red paint (comp. Gustavson-Gaube 1981: fig. 92). **9.11:** TK8052/E. R50 (25:59, interior floor). Painted ware. Oxidized. Common fine sand. Surfaces 7.5yr7/4, black paint. **9.12:** TK6101/p1238. S68 (21:2, street). Local Painted. Ø ca. 28cm, <20°. Light grit and calcite inclusions, possibly grog also. Fully oxidized. Surface 7.5yr7/2, core 7.5yr6/4, light reddish paint. **9.13:** TK7730. (26:20, possibly from later context). Painted ware. Rare fine sand. Surfaces 10yr8/3, black paint (comp. Akkermans 1993: fig. 3.36/69; Nieuwenhuyse 2000: 245:3). **9.14:** TK6101/p1231. S68 (21:2, street). Halaf Painted. Ø 30cm, 20°. Very light grit and calcite inclusions. Fully oxidized. Surface (slip) 2.5yr7/3, core 5yr6/6. Faded, uneven reddish paint (comp. Iwasaki et al. 1995: fig. 16:18). **9.15:** TK7223/D. R35 (23:34, possibly after abandonment of room). Painted ware. Oxidized. Rare fine sand. Surfaces 7.5yr7/6. Painted and impressed exterior (comp. Contenson 1992: fig. 208:5).

Figure 10: Obsidian

Illustration no.: TK no., lithic no.: Unit (Trench:Locus), deposit type; object type; raw material, colour

10.1: TK6053. R24 (20:26, niche in wall); blade; obsidian, green. **10.2:** TK5987. R41 (25:10, wall); blade; obsidian, transparent gray. **10.3:** TK8175. R54 (26:22, interior floor); blade-like piece patch of with natural surface; obsidian, green. **10.4:** TK8050, no. 1; R24 (20:58, room deposit); blade-like piece with bi-directional; flaking; obsidian, transparent gray. **10.5:** TK6860, no. 1; R53 (22:69, interior floor); part crested blade with edge retouch; obsidian. **10.6:** TK5908, no. 1; R19 (21:18, room deposit); core fragment; obsidian, transparent gray. **10.7:** TK8146, no. 1; R07 (12:79, courtyard surface); core fragment; obsidian, gray brown. **10.8:** TK7262, no. 2; R29 (22:78, courtyard surface); blade-like piece struck to remove step; obsidian, gray. **10.9:** TK5817, no. 2; R28 (22:28, interior floor); blade, slightly overshot with trace of ground platform on distal end; obsidian, transparent gray. **10.10:** TK8798, no. 1; R59 (26:60, interior floor); flake, edge damage and ground edge (? relict platform) on right edge; obsidian, green. **10.11:** TK7228, no. 1; R37 (23:31, interior floor); wide blade with edge retouch; obsidian, green. **10.12:** TK7254, no. 5; R39 (22:44, interior floor); blade with possible burin facet; obsidian, transparent gray.

Figure 11: Drills, points, burins, bifacials and scrapers

Illustration no.: TK no., lithic no.: Unit (Trench:Locus), deposit type; object type; raw material, colour

11.1: TK8053, no. 1; R50 (25:59, interior floor); drill, possibly slightly worn; flint; **11.2:** TK7504, no. 17; S73 (26:3, street); point; flint; **11.3:** TK7504, no. 15; S73 (26:3, street); point; flint; **11.4:** TK7471, no. 5; R24 (20:37, interior floor); point, worn on end and on dorsal surface; flint; **11.5:** TK8062, no. 1; R52 (25:73, room deposit); point; abrupt retouch on distal part of naturally pointed flake; flint; **11.6:** TK8465, no. 2; R52 (25:73, room deposit); point on squat flake; flint; **11.7:** TK6851, no. 7; (22:33, wall); point on end of blade, worn; flint; **11.8:** TK8221, no. 4; R30 (23:29, room deposit); point, bifacially retouched on flake; flint; **11.9:** TK8457, no. 2; R44 (25:34, courtyard); scraper with deniculated edge; flint; **11.10:** TK8729; R39 (25:87, interior floor); burin on blade backed; flint; **11.11:** TK8739, no. 3; R40 (25:85, oven deposit); burin on truncated blade, and some retouch; flint; **11.12:** TK8613, no. 2; R53 (26:34, interior floor); burin on blade, truncated end; flint; **11.13:** TK7555, no. 5; R25 (20:51, room deposit); scraper, small retouch on end; flint; **11.14:** TK7439, no. 2; R50 (25:55, room deposit); transverse arrowhead; blade segment with abrupt retouch on both edges; flint; **11.15:** TK7861, no. 4; R23 (23:43, wall/doorway); bifacial, possibly small axe, cortex on dorsal surface and some ground areas on other surface; flint; **11.16:** TK7019, no. 3; R30 (23:29, room deposit); blade-like piece with cortex on one edge and serial flaking (possibly pressure) along left side; flint; **11.17:** TK6051, no. 22; S72 (20:2, street); fragment of tanged piece? Semi invasive retouch on both sides forming a tang; flint.

Figure 12: Glossed blades

Illustration no.: TK no., lithic no.: Unit (Trench:Locus), deposit type; object type; raw material, colour

12.1: TK5956; (24:15, room deposit); glossed blade, blade backed, convex and gloss on edge extending to first arris; flint; **12.2:** TK7225, no. 5; R35 (23:34, trash deposit in room after abandonment); glossed blade, truncated at both ends and backed; flint; **12.3:** TK6103, no. 15; S68 (21:2, street); glossed blade, truncated at both ends and backed; slightly curved in shape; flint; **12.4:** TK6103, no. 13; S68 (21:2, street); glossed blade, convex back formed by abrupt retouch; flint. **12.5:** TK7856, no. 9; R39 (23:42, surface); glossed blade, truncated at both ends and with retouch (? Serrations) on glossed edge; flint; **12.6:** TK5817, no. 4; R29 (22:40, exterior deposit); lightly glossed blade, serrated edge, end truncated and back formed by cortex; flint; **12.7:** TK8729; R39 (25:87, interior floor); glossed blade, edge has chipping, proximal end truncated, distal end round and left edge retouched; flint; **12.8:** TK7019; R30 (23:29, room deposit); glossed blade, distal end truncated, proximal unmodified. Some chipping on glossed edge; flint; **12.9:** TK7019, no. 5; R30 (23:29, room deposit); glossed blade, proximal end retouched to point. Chipped through gloss; flint; **12.10:** TK6377, no. 3; R39 (22:44, interior floor); lightly glossed blade, distal end retouched and with burin-like facet. Retouch on convex edge of right side towards proximal end; flint; **12.11:** TK8189; R57 (26:42, room deposit); glossed blade, truncated at both ends. Serrated edge; flint; **12.12:** TK7225, no. 13; R35 (23:34, trash deposit in room after abandonment); glossed blade, truncated with abrupt retouch at both ends. Some chipping on edge; flint; **12.13:** TK7019, no. 4; R30 (23:29, room deposit); glossed blade, truncated with abrupt retouch at both ends. Distal end inverse and irregular retouch and proximal end

concave; flint; **12.14:** TK8778, no. 4; R54 (26:62, interior floor); glossed blade, truncated at both ends, chipping on glossed edge; flint; **12.15:** TK8221, no. 8; R30 (23:29, room deposit); segment of blade with retouched ends and chipping on edge, but no gloss; flint.

Figure 13: Beads, pendants, seals, sealings, tokens, figurines

Illustration no.: TK no.; Unit (Trench:Locus), object type; raw material

13.1: TK5345. (22:1, topsoil). Bead, obsidian; **13.2:** TK7369. R4 (12:76, room deposit). Bead, obsidian; **13.3:** TK7648. (25:49, fill layer). Pendant/seal, bluish stone; **13.4:** TK8707. R46 (25:79, floor). Pendant/seal, stone; **13.5:** TK6732. (20:6). Bead, dentalium shell; **13.6:** TK7647. R42 (25:28, room deposit). Bead, stone; **13.7:** TK7368. R4 (12:76, room deposit). Pendant, animal tooth; **13.8:** TK7290. (26:1, topsoil). Pendant/seal, gray stone; **13.9:** TK6521. R28 (22:67, interior floor). Pendant, obsidian; **13.10:** TK7961. (24:8, sherd pavement area). Pendant/seal, greenish brown stone; **13.11:** TK7944. R06 (12:77, room deposit). Bead/seal, brown stone; **13.12:** TK7257. (26:1, topsoil). Figurine fragment, unbaked clay; **13.13:** TK8147. R07 (12:79, floor of courtyard). Figurine fragment, stone; **13.14:** TK8529. R10 (12:89, room floor). Seal, recycled pottery lug; **13.15:** TK7639. (25:33). Token, conical, unbaked clay; **13.16:** TK5779. S68 (21:2, street). Token, conical, unbaked clay; **13.17:** TK6341. R41 (25:32, interior floor). Token, conical, unbaked clay; **13.18:** TK5815. R28 (22:28, interior floor). Token, conical, unbaked clay; **13.19:** TK8071. R44 (25:34, courtyard deposit). Token, spherical, unbaked clay; **13.20:** TK5723. R17 (20:8, fill layer). Token, discoid, unbaked clay; **13.21:** TK5924. (23:7, ditch). Token, tear-shaped, unbaked clay; **13.22:** TK5742. (20:15, pit). Sealing with coil impressions, lightly baked clay.

Figure 14: Reworked sherds, spindle whorls, bone implements, celts

Illustration no.: TK no. Unit (Trench:Locus), object type; raw material

14.1: TK8582. (25:78, fill layer). Reworked sherd, ceramic; **14.2:** TK8179. R56 (26:39, room deposit). Reworked sherd, ceramic; **14.3:** TK8929. S69 (23:5, street). Reworked sherd, ceramic; **14.4:** TK7683. R35 (23:34, room). Reworked sherd, ceramic; **14.5:** TK8072. R44 (25:34, courtyard deposit). Spindle whorl, gray stone; **14.6:** TK7263. R39 (22:44, interior floor). Spindle whorl, ceramic; **14.7:** TK8675. R44 (25:96, courtyard surface). Spindle whorl, ceramic; **14.8:** TK6180. R29 (22:33, courtyard deposit). Awl, bone; **14.9:** TK7259. R29 (22:78, courtyard surface). Spatula fragment, bone; **14.10:** TK7666. R30 (23:29, room deposit). Awl, bone; **14.11:** TK7506. S73 (26:3, street). Awl, bone; **14.12:** TK7362. R5 (12:69, room deposit). Awl, bone; **14.13:** TK8565. R44 (25:34, courtyard deposit). Celt, stone; **14.14:** TK6207. R22 (21:23, room deposit). Celt, stone; **14.15:** TK8915. (25:96, courtyard floor). Celt, stone; **14.16:** TK5574. R19 (21:18, interior floor). Celt, stone; **14.17:** TK6239. (25:4, plow zone). Celt, stone; **14.18:** TK8876. (25:110, fill layer). Celt, stone.

Figure 15: Stone bowls, mace head, sling pellets, hammerstone, grinding stone, lid/stand

Illustration no.: TK no. Unit (Trench:Locus), object type; raw material

15.1: TK8144. R07 (12:79, courtyard floor). Bowl, stone; **15.2:** TK8849. R52 (25:73, room deposit). Bowl, green stone (serpentine?); **15.3:** TK7020. R30 (23:29, room deposit). Cup, lustrous black stone; **15.4:** TK8931. R30 (23:29, room deposit). Rim of cup or jar, stone; **15.5:** TK8387. R44 (25:96, courtyard floor). Bowl, stone; **15.6:** TK7810. (24:21, fill layer). Mace head, black stone; **15.7:** TK6538. R29 (22:58, courtyard floor). Hammer stone, basalt; **15.8:** TK7089. R24 (20:37, interior floor). Sling pellet, lightly baked clay; **15.9:** TK7090. R24 (20:37, interior floor). Sling pellet, lightly baked clay; **15.10:** TK7080. R24 (20:37, interior floor). Sling pellet, lightly baked clay; **15.11:** TK8380. R05 (12:88, interior floor). Grinding stone, basalt; **15.12:** TK7387. R06 (12:77, room deposit). Stand or lid, sandstone.

Sample	Lab ID	Provenience	Date BP	cal BC, 1 sigma	cal BC, 2 sigma
1) TK 6641	AA-52965	R28 lowest floor (22:67)	7173 ± 72	6160-6140 / 6090-5920	6220-5880
2) TK 7399	AA-52961	R06 (12:77)	7032 ± 71	5990-5810	6020-5730
3) TK 8896	AA-52956	R41 lower floor (25:111)	6972 ± 48	5970-5950 / 5900-5770	5980-5730
4) TK 7032	AA-52962	R37 (23:31)	6948 ± 53	5880-5730	5980-5720
5) TK 6877	AA-52963	R57 (26:59)	6911 ± 47	5840-5730	5890-5660
6) TK 6763	AA-52964	R41 upper floor (25:36)	6843 ± 90	5800-5630	5970-5950 / 5910-5560
7) TK 8534	AA-52959	R05 (12:88)	6817 ± 88	5780-5620	5890-5530
8) TK 8358	AA-52960	S70 (23:34)	6724 ± 56	5710-5560	5730-5520
9) TK 8894	AA-52957	R39 lower floor (25:88)	6566 ± 58	5610-5470	5630-5380
10) TK 8829	AA-52958	R39 upper floor (25:103)	6306 ± 48	5360-5210 / 5160-5150	5470-5080

- All samples are single charred seeds;

- Calibrated with OxCal 3.9

Atmospheric data from Stuiver et al. (1998), OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

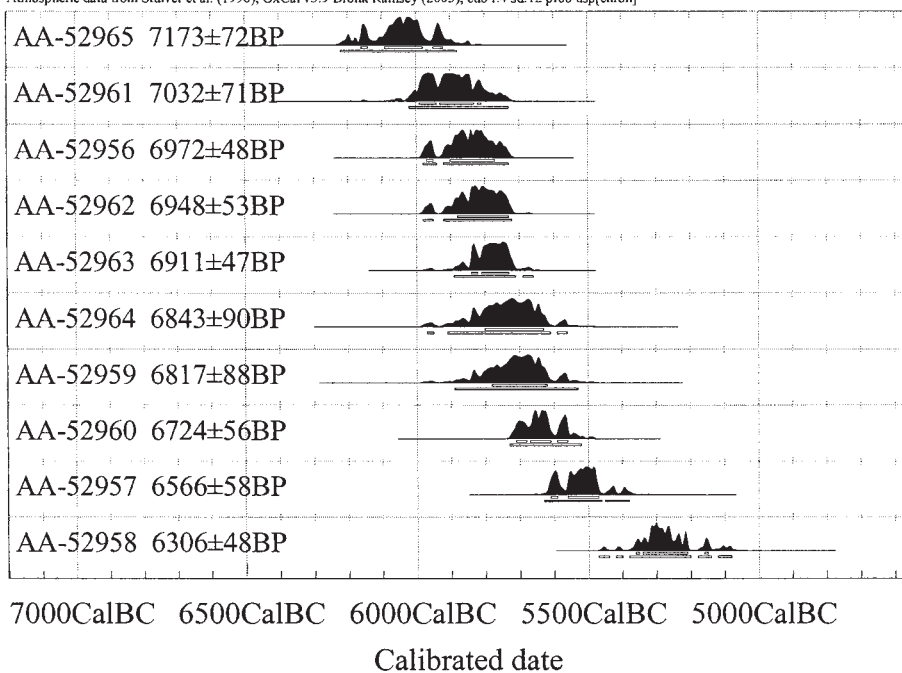


Table 1: Radiocarbon dates with calibrations.

ware	frequency
Dark-faced Burnished Ware	35-40 %
Dark-faced Unburnished Ware	19-24 %
Local Painted Ware	31-36 %
Halaf Painted Ware	4-9 %
Miscellaneous Sherds	0-3 %

Table 2: Wares and frequencies according to Braidwood and Braidwood (1960:138-149).

ware	count	%	weight	%	avg. weight
Cooking Wares	360	13.6	13452	20.3	37.4
DFBW	409	15.5	13931	21.1	34.1
DfuBW	1715	64.9	30694	46.4	17.9
<i>DFuBWv1</i>	<i>479</i>		<i>14007</i>		<i>29.2</i>
<i>DFuBWv2</i>	<i>1236</i>		<i>16687</i>		<i>13.5</i>
Halaf Painted	17	0.6	980	1.5	57.6
Local Painted	91	3.5	6138	9.3	67.5
Monochrome Painted	35	1.3	528	0.8	15.1
Miscellaneous	16	0.6	447	0.7	27.9
<i>Bichrome</i>	<i>1</i>		<i>150</i>		<i>150.0</i>
<i>Corrugated</i>	<i>12</i>		<i>173</i>		<i>14.4</i>
<i>Cream Ware</i>	<i>1</i>		<i>102</i>		<i>102.0</i>
<i>Incised, Impressed, Dentated</i>	<i>2</i>		<i>22</i>		<i>11.0</i>
total	2643	100	66170	100	25.0

Table 3: Count and weight data for ware groups from Phase C high quality contexts excavated in 2001. Italics represent ware subgroups.

inclusion	number	% recorded with that incl.
Calcite	65	14.22%
Cattail (?)	18	3.94%
Chaff	2	0.44%
Chaff, short (dung?)	22	4.81%
Grit	230	50.33%
Grog	24	5.25%
Lime	3	0.66%
Limestone	3	0.66%
Sand	168	36.76%
Shell	46	10.07%
None	38	8.32%

- Table summarizes inclusion data for sherds from appropriate level C type contexts in north mound operations of Tell Kurdu. 619 = number of inclusion instances; 457 = number of individually tested sherds from high quality contexts from appropriate levels of the north mound.

- Note that the percentage is of total sherds, while number is number of inclusion types noted. Since the same sherd might have multiple inclusion types, the number of inclusion types recorded is greater than the number of sherds.

- Note preponderance of calcite + grit + sand, which singly or in combination appear on 90% of all sherds.

Table 4: Pottery inclusions summary table.

	core	chunk	blade	flake	flake or blade	indet	retouched	total flint	% retouched
room deposits	6	5	113	152	24	83	213	596	35
street deposits	1	3	23	57	12	10	63	169	37
courtyards		3	30	30	7	8	40	118	34
features		1	14	31	3	6	28	83	34
mixed/later	13	11	197	277	44	79	376	997	38
totals	20	23	377	547	90	186	720	1963	

Table 5: Counts of flint by type of context.

context	core	chunk	blade	flake	indet	retouched	total	% obsidian
room deposits	2		156	11	3	35	207	25.8
street deposits			44	7	1	8	60	26.2
courtyards			24			6	30	20.1
features			8	2	2	3	15	15.3
mixed/later	3	1	195	15	6	52	272	21.5
totals	5	1	427	35	12	104	584	22.90

Table 6: Counts of obsidian by type of context.

obsidian colour	%	remarks
black (opaque)	12%	
translucent grey	34.6%	includes pieces with stripes and wisps
green	49%	
translucent brown	3.5%	
other	0.7%	including black with grey edges, clear with black and red stripes and black-with-red

Table 7: Proportions of different coloured obsidians.

context	misc retouch	glossed	points	burins	scrapers	Bifacials	other
interior rooms	121	61	10	6	4	6	transverse a'head. fl from pol tool
streets	32	24	5	1			
courtyards	20	15	1	3			

Table 8: Counts of retouched forms by type of secure context.

	Edge retouch	Glossed blade	Point	Burin	Scraper	Bifacial	Other retouch	Cores flint	Total flint	Total obsidian	Total	% obsidian	Extras and Notes
Room													
R05	8	4	2	1					37	27	64	42 %	
R06	2	4							19	6	25	24 %	
R19	1							1?	17	4	21	19 %	
R24	9	4	1						40	22	62	35 %	
R25	11				2?				27	9	36	25 %	
R28	11	5							46	10	56	18 %	
R30	13	4	2	2		1			50	7	57	12 %	obs. blade in wall niche
R39	8	4		1					45	6	51	12 %	2 worn edges obsidian link
R41	8	2		1					33	12	45	27 %	2 serial flaking
R42	3	10					Flake from polished tool 1 hammerst.?		32	3	35	9 %	2 serial flaking
R49	2							1	15	7	22	32 %	
R53	5	1		1	1				20	7	27	26 %	
R59	5	3				1			22	10	32	32 %	
Totals	86	41	5	6	3	2	0	2	403	130	533	24 %	
Exterior													
R07	8	5		2					22	8	30	27 %	
R29	6	6		1					40	9	49	18 %	point from wall
R31	4	2							24	5	29	17 %	
R44	2	2	1		1				32	8	40	20 %	
Totals	20	15	1	3	1	0	0	0	118	30	148	20%	
Streets													
S68	5	11							34	9	43	21 %	
S69	6	2							26	11	37	41 %	
S72	12	3	1	1					44	17	61	28 %	serial flaking
S73	8	8	4						51	15	66	23 %	
Totals	31	24	5	1	0	0	0	0	155	52	207	25 %	

Table 9: Counts of retouched forms by context. Only contexts with 20 or more pieces are included.

	density (total count / liter)	
	streets	Rooms and courtyards
micro-ceramics	6.23	3.08
micro-chipped stone	7.04	3.85
micro-bone*	159.95	55.16
micro-shell	9.30	8.12
Street samples, n = 8; rooms and courtyard samples, n = 177. * includes burnt bone		

Table 10: Microartifact density values for steets and rooms/courtyards.

floor location	room 28 (highest to lowest)				floor location	room 39 25:88 % burnt
	28:28 % burnt	28:50 % burnt	28:57 % burnt	28:67 % burnt		
North	12.50	20.55	29.63	2.72	Northeast	11.52
South	7.32	14.52	13.89	11.32	Southeast	20.00
East	5.88	9.86	16.02	7.14	Southwest	9.68
West	9.14	18.92	13.51	7.64	West	3.12
Center	16.67	51.02	77.46	43.08	East	6.08
Center	-	53.85	-	-	Center	37.34
Ct. margin 1	7.89	-	-	17.78	on platform	20.00
Ct. margin 2	-	-	-	30.10	in front platform	12.73

Table 11: Percentage of burnt microbone (of total microbone) by sample for R28 and R39.

	2001 assemblage	1999 assemblage
Identifiable	4919	1630
Unidentifiable	23513	2105
Total	28432	3735

Table 12: Size of 1999 and 2001 analyzed faunal assemblages.

taxon	2001 NISP	2001 %NISP	1999 NISP	1999 %NISP
Ovicaprine	1658	33.70	576	35.33
<i>Bos taurus</i>	1785	36.30	483	29.63
<i>Sus scrofa</i>	318	6.46	226	13.87
<i>Gazella</i> sp.	62	1.26	18	1.10
Cervid	612	12.44	48	2.94
<i>Equus</i> sp.			4	0.25
Small Felid	4	0.08	2	0.12
Medium Felid	3	0.06	4	0.25
<i>Canis</i> sp.	7	0.14	2	0.12
<i>Vulpes</i>			1	0.06
Rodent	18	0.37	19	1.17
<i>Sekeetamys</i> sp.			1	0.06
Lagomorph	3	0.06	2	0.12
Martes	2	0.04		
Aves	24	0.49	5	0.31
Turtle/Tortoise	43	0.89	21	1.29
Fish	244	4.96	152	9.33
Crab			1	0.06
Mollusc	72	1.46	1	0.06
Bivalve			26	1.60
Gastropod	64	1.30	38	2.33
Total identified	4919	100	1630	100

Table 13: Species distribution for Amuq C faunal remains, 1999 and 2001 assemblages.

FAMILY	Phase	TK No. 8015	TK No. 6307	TK No. 7655	TK No. 6699	TK No. 7699	TK No. 6651	TK No. 7484	TK No. 8266	TK No. 8396	TK No. 6446
		room deposit in R57	room deposit in R40	room deposit in R37	upper levels from oven in R05	lower levels from oven in R05	inside oven in room R03	from inside bin in room R24	from inside <i>in situ</i> vessel in R51	from inside <i>in situ</i> vessel in R05	from inside <i>in situ</i> vessel in R07
		Amuq C	Amuq C	Amuq C	Amuq C	Amuq C	Amuq C	Amuq C	Amuq C	Amuq C	Amuq C
	Volume floated (l)	5.5	7.5	7.25	9.75	9	7.5	3	1.5	12	1.9
	Volume float (ml)	7	12.5	5	1	0.5	4	3	1.5	2	0.5
	Volume sorted (%)	100	100	100	100	100	100	100	100	100	100
Crop Plants											
GRAMINEAE	<i>Triticum cf. dicoccum</i>	-	1	-	-	-	-	-	-	-	-
GRAMINEAE	<i>Triticum boeoticum</i>	-	1	-	-	-	-	1	-	-	1
GRAMINEAE	<i>Triticum</i> sp.	-	-	-	1	-	-	-	2	-	-
GRAMINEAE	<i>Hordeum vulgare</i>	1	-	-	1	-	-	-	-	3	-
GRAMINEAE	Cereal caryopsis indet.	7	7	4	1	6	-	14	-	2	-
LEGUMINOSAE	Lg Legumes indet.	-	2	-	1	-	-	21	-	1	-
Fruits/nuts											
MORACEAE	<i>Ficus</i>						1				
Weed Seeds											
	Sim Legumes indet.	-	-	-	-	-	-	-	-	-	-
PAP/LEG	<i>Melilotus</i>	-	2	-	-	-	-	-	-	2	-
PAP/LEG	<i>cf. Trifolium</i>	-	-	-	-	-	-	-	-	-	-
POLYGONACEAE	<i>Polygonum</i> seed coat	-	-	-	1	-	-	-	-	-	-
POLYGONACEAE	<i>Polygonum</i>	-	-	-	-	-	-	-	-	-	-
CHENOPODIACEAE	<i>Chenopodium</i>	1	7	1	-	1	-	3	-	4	-
CHENOPODIACEAE	<i>Amaranth</i>	-	2	-	-	-	1	-	1	-	1 (unchanged)
CHENOPODIACEAE	<i>Plantago</i> sp.	-	-	4	-	-	-	-	-	-	-
PLANTAGINACEAE	<i>Plantago</i> sp.	-	1	-	-	-	-	-	-	-	-
CYPERACEAE	CYPERACEAE	-	1	1	-	-	-	-	-	-	-
LINACEAE	<i>Linum</i>	-	-	-	-	-	-	-	-	-	-
BORAGINACEAE	<i>Echium</i> (silicified nutlet)	1	-	-	-	-	-	-	-	-	-
THYMELAEACEAE	<i>Thymelaea</i>	-	-	-	-	4	-	-	-	-	-
GRAMINEAE	<i>Lolium</i> sp.	-	-	1	-	-	-	-	-	1	-
GRAMINEAE	wild grass indeterminate	-	-	-	-	-	-	-	-	-	-
COMPOSITAE	COMPOSITAE	-	-	-	-	-	1 (unchanged)	-	-	-	-
	Unknowns	-	-	-	-	3	-	-	-	-	-
Plant parts											
	Wood	little	little	little	little	little	none	little	little	little	little
	seed coats	-	-	-	2	-	-	-	-	-	-
GRAMINEAE	<i>Triticum</i> sp. rachis	-	-	4	-	-	-	-	-	-	-
GRAMINEAE	<i>T. aestivum/durum</i> rachis	-	-	-	-	-	1	-	-	-	-
GRAMINEAE	culm node	-	-	-	-	-	8 (1 unchanged)	1	-	-	-
GRAMINEAE	Glume wheat glumes & rachis	-	-	-	-	-	8 (1 unchanged)	-	-	-	-
GRAMINEAE	<i>Triticum</i> spikelet fork	-	-	-	-	-	-	1	-	-	-
GRAMINEAE	<i>Aegilops</i> spikelet base	-	-	-	-	-	3	-	-	-	-
GRAMINEAE	<i>cf. Aegilops</i> rachis	-	-	-	-	-	6	-	-	-	-
GRAMINEAE	Indeterminate cereal parts	-	-	-	-	-	67	-	-	-	-
Totals per sample		10	27	15	7	14	79	42	3	13	2
Total Seed Count											212

Table 14: Species distribution for analyzed botanical samples.

individual	amelogenin	MtDNA haplotype (Position 16000+)
1) 12:81	XY	104T, 187T, 216G, 239G, 319C
2) 25:8	XX	94G, 163G, 187T
3) 12:14	XY	104T, 187T, 216G, 239G, 319C
4) 25:89	Undetermined	Undetermined
5) 25:80	XY	104T, 187T, 216G, 219G, 312G
6) 22:2	Undetermined	Undetermined
7) 23:10	Undetermined	Undetermined
8) 26:2	XY	94G, 163G, 187T
9) 12:12	Not analyzed	
10) 12:13	XY	104T, 187T, 216G, 239G, 319C
11) 26:12	XX	104T, 187T, 216G, 239G, 319C
12) 24:27	XX	104T, 187T, 216G, 239G, 319C
13) 24:16	Undetermined	104T, 187T, 216G, 219G, 312G
14) 24:3	XX	104T, 187T, 216G, 239G, 319C
15) 23:11	Undetermined	104T, 187T, 216G, 239G, 319C

- 'Undetermined' denotes failure to obtain PCR product or unambiguous sequence from at least two independent extracts. Individuals which yielded only partial mtDNA sequence are not included here. Haplotypes are designated in reference to the Cambridge reference sequence (Anderson et al., 1981).

Table 15: Results of sexing assay by amplification of amelogenin fragments on X and Y chromosomes.

Population	Sample Size	Number of Haplotypes	Sequence Diversity	Nucleotide Diversity (n)
Tell Kurdu	11	3	0.582	0.00672
Turkish ¹	45	40	0.994	0.0149
Algerians ²	47	27	0.957	0.0158
Moroccan Arabs ²	50	44	0.993	0.0195
Tunisians ²	47	42	0.989	0.0171
Basques ²	173	71	0.942	0.0084
Central Spain ²	50	38	0.953	0.0128
Galicians ²	103	62	0.939	0.0092

- ¹Data from Comas et al., 1996. ²Data from Plaza et al., 2003.

Table 16: Diversity parameters for the Hypervariable Region I in the Tell Kurdu population and several modern populations for comparison.

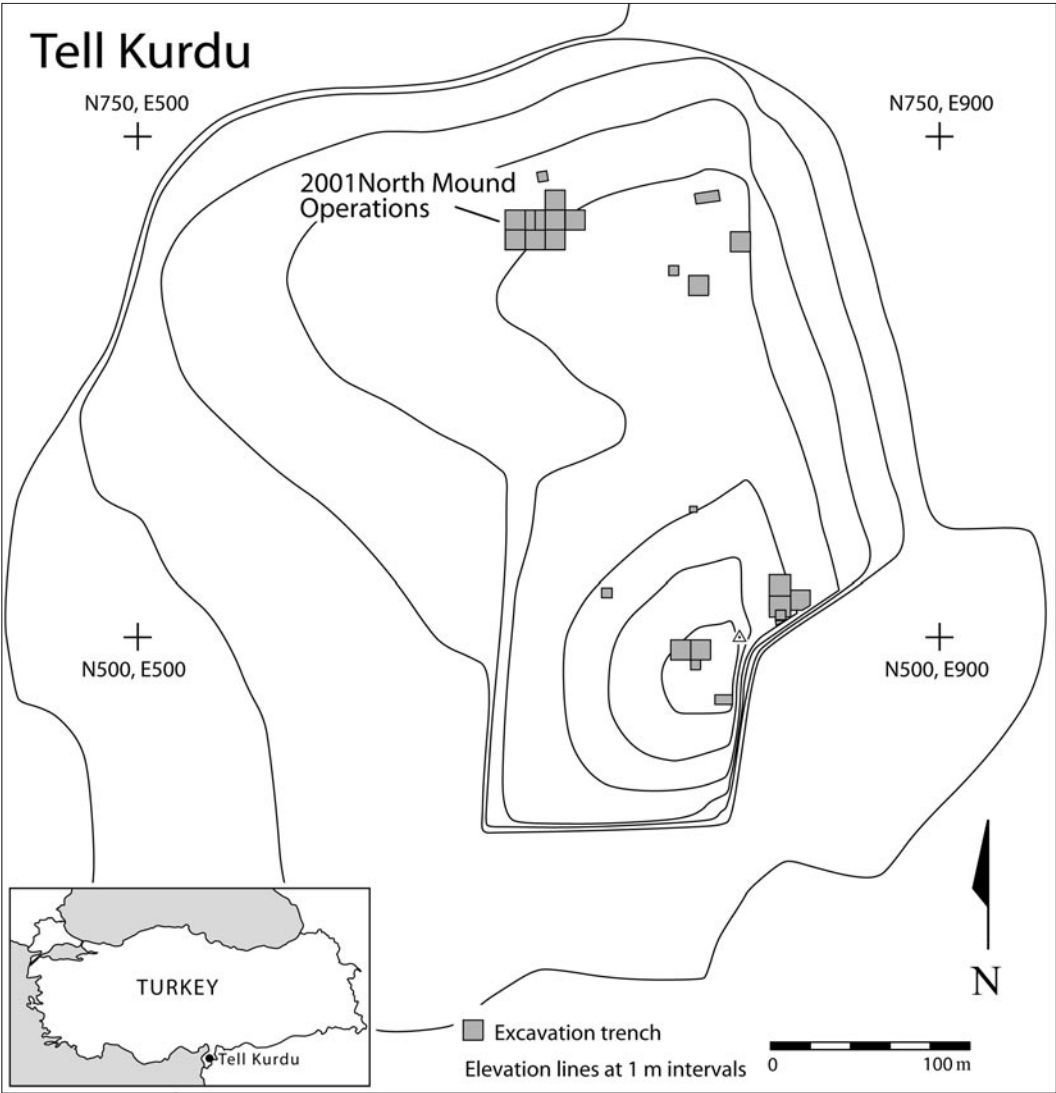


Fig. 1. Topographic plan of Tell Kurdu, showing location of trenches.

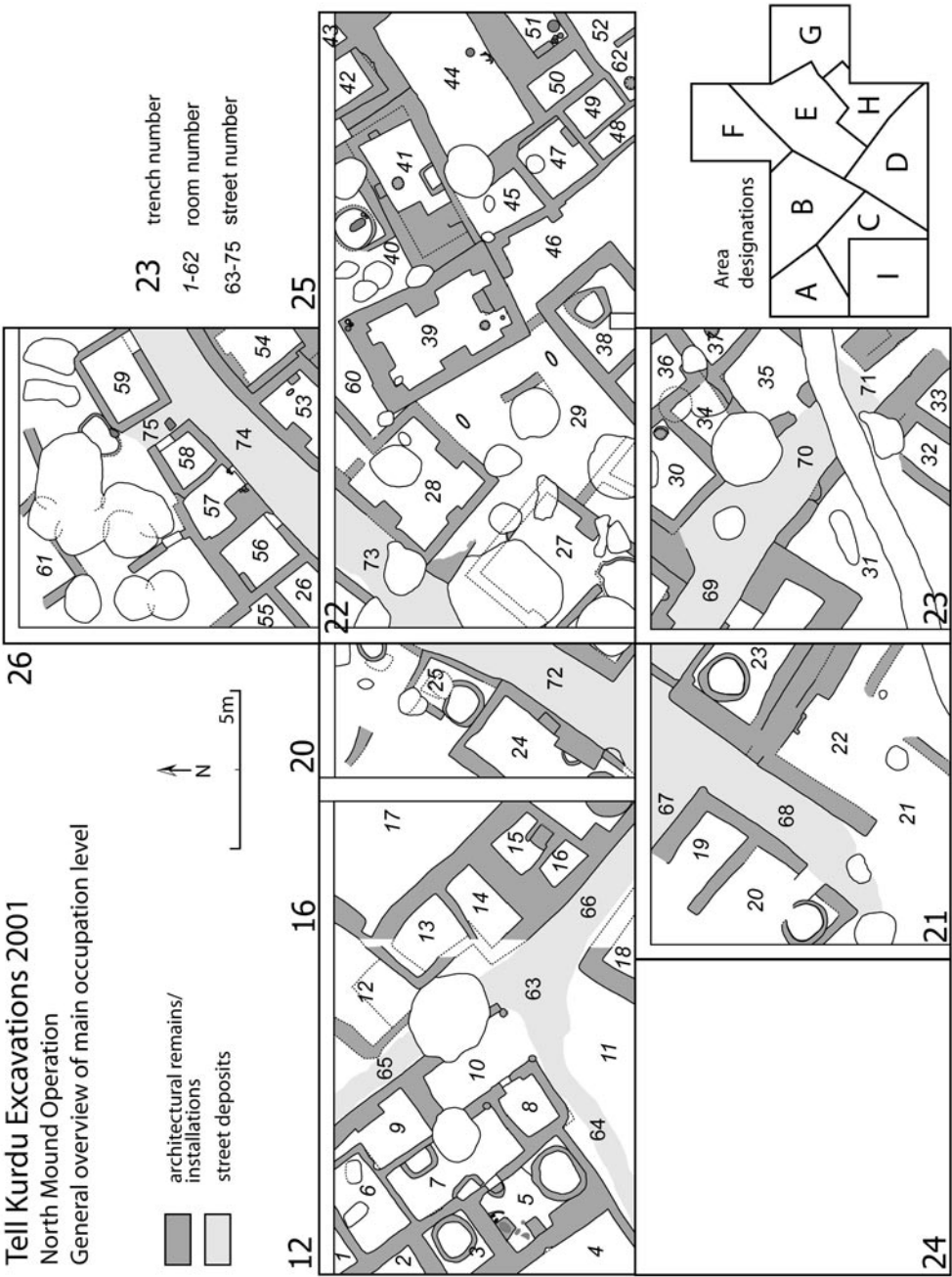


Fig. 2. Plan of North Mound Trenches, showing main occupation level.

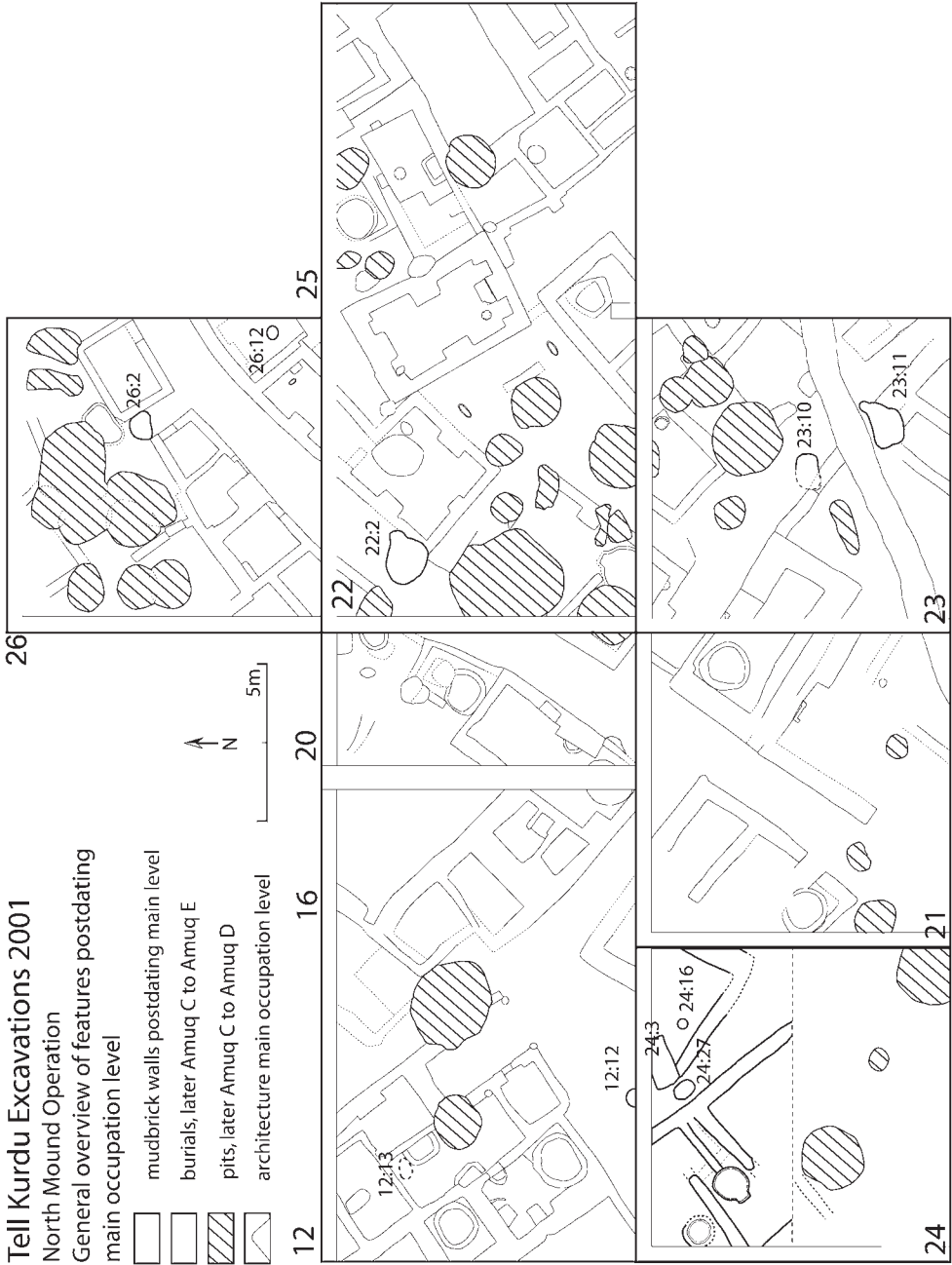


Fig. 3. Plan of North Mound Trenches, showing features post-dating the main occupation level.

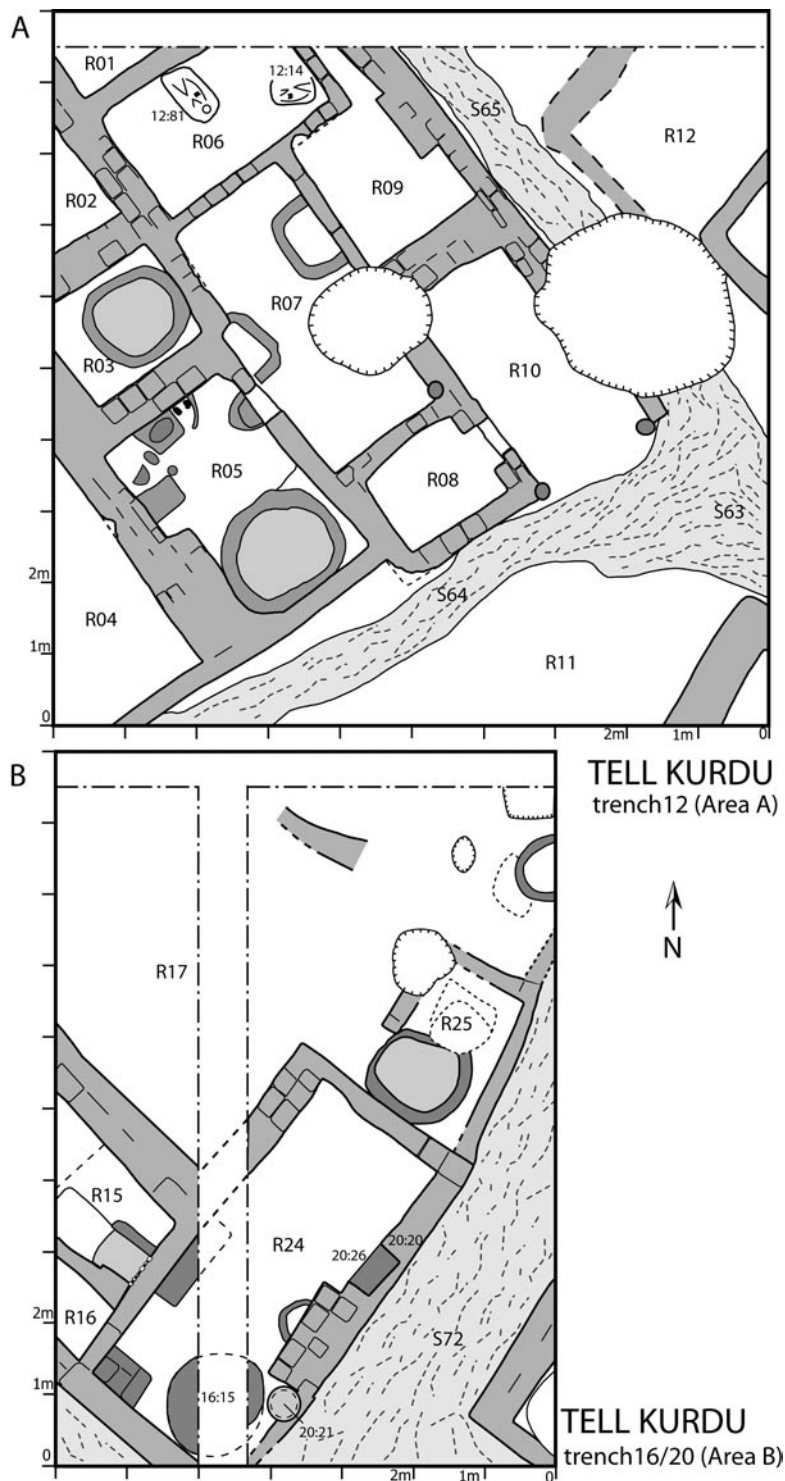


Fig. 4. A: plan of Area A (Tr 12); B: plan of Area B (Tr 16/20). For key see figure 5.

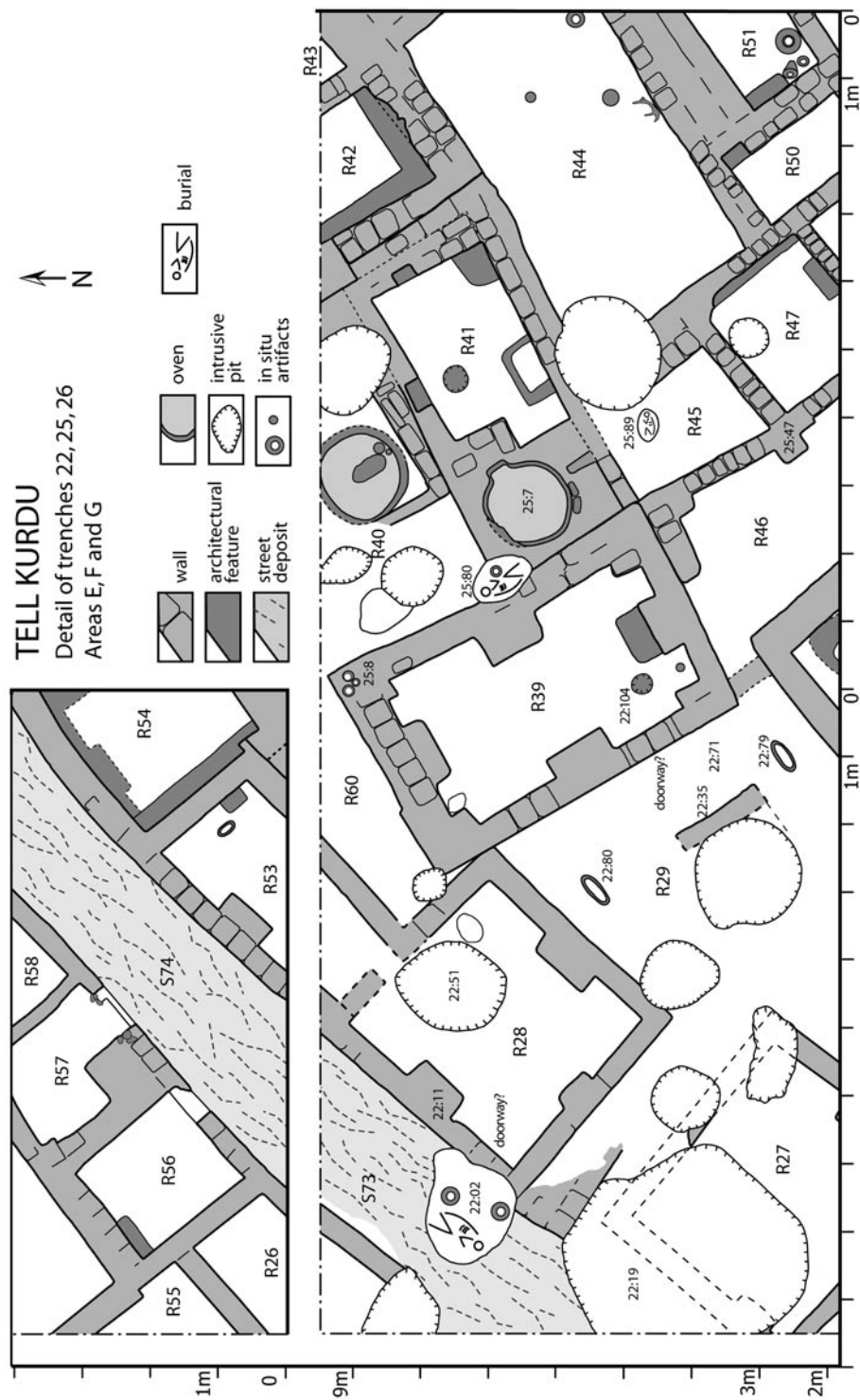


Fig. 5. Plan of Areas E and G (Tr 22, 25, 26).

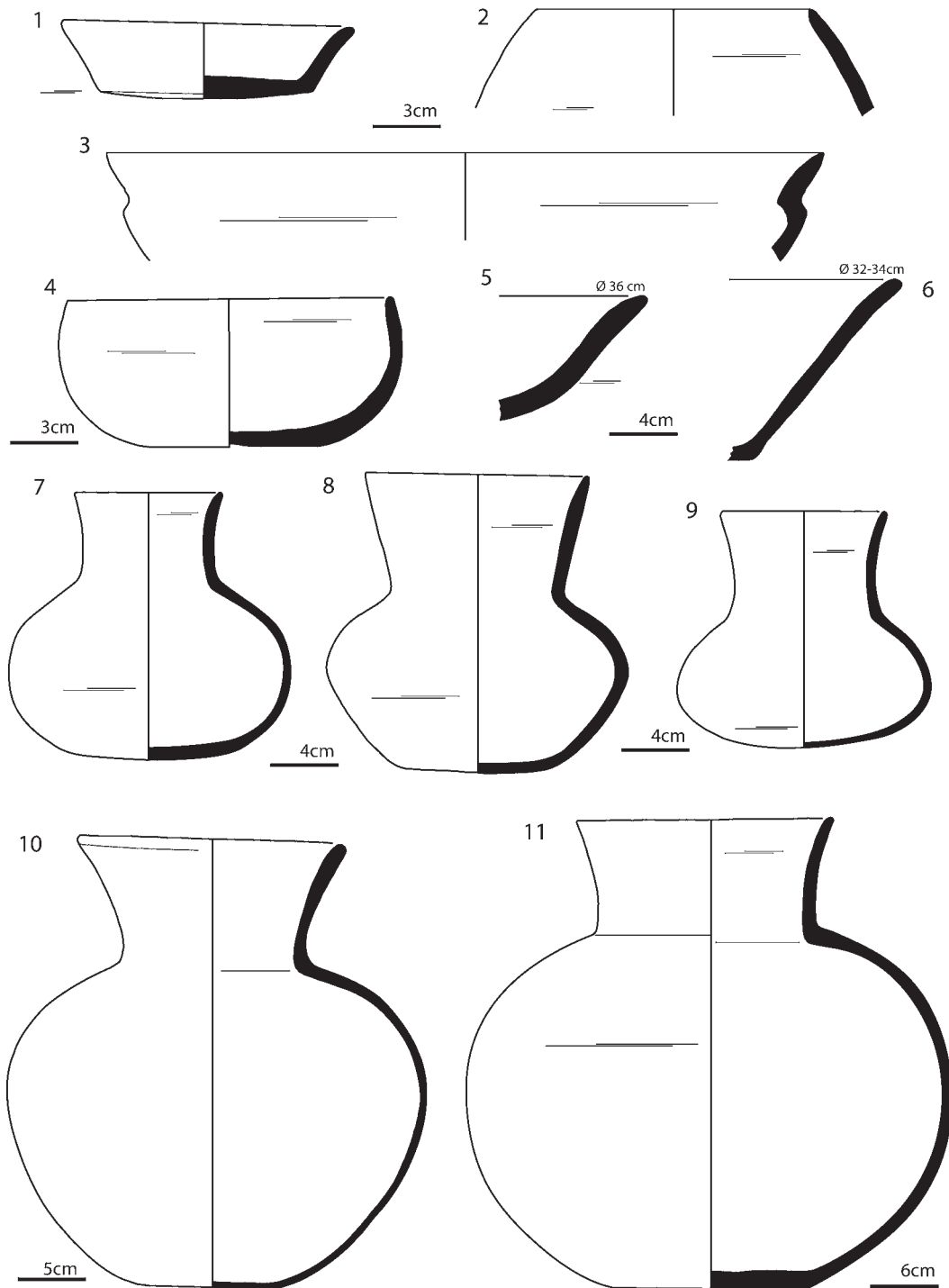


Fig. 6. Ceramics: dark-faced burnished wares.

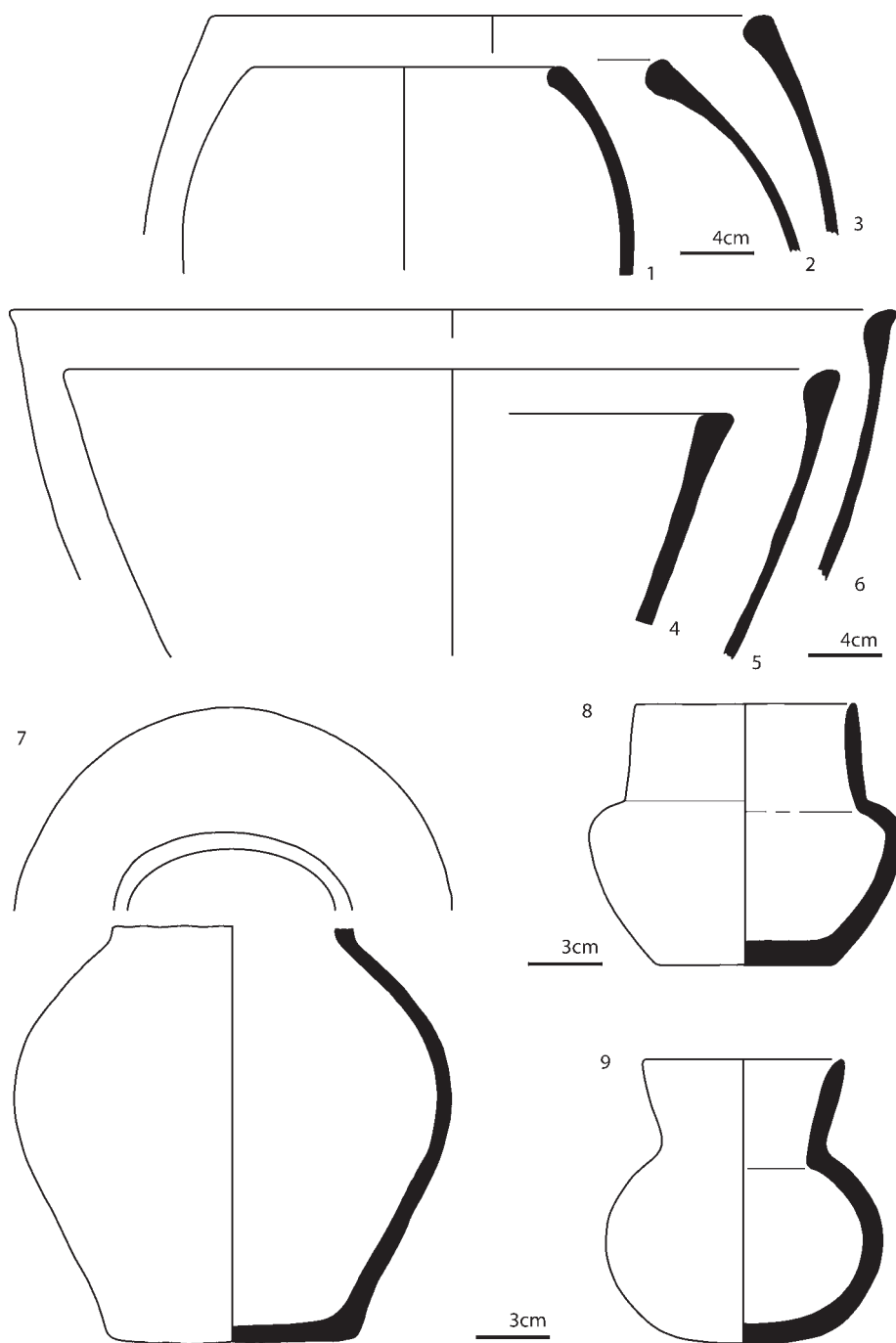


Fig. 7. Ceramics: dark-faced unburnished wares.

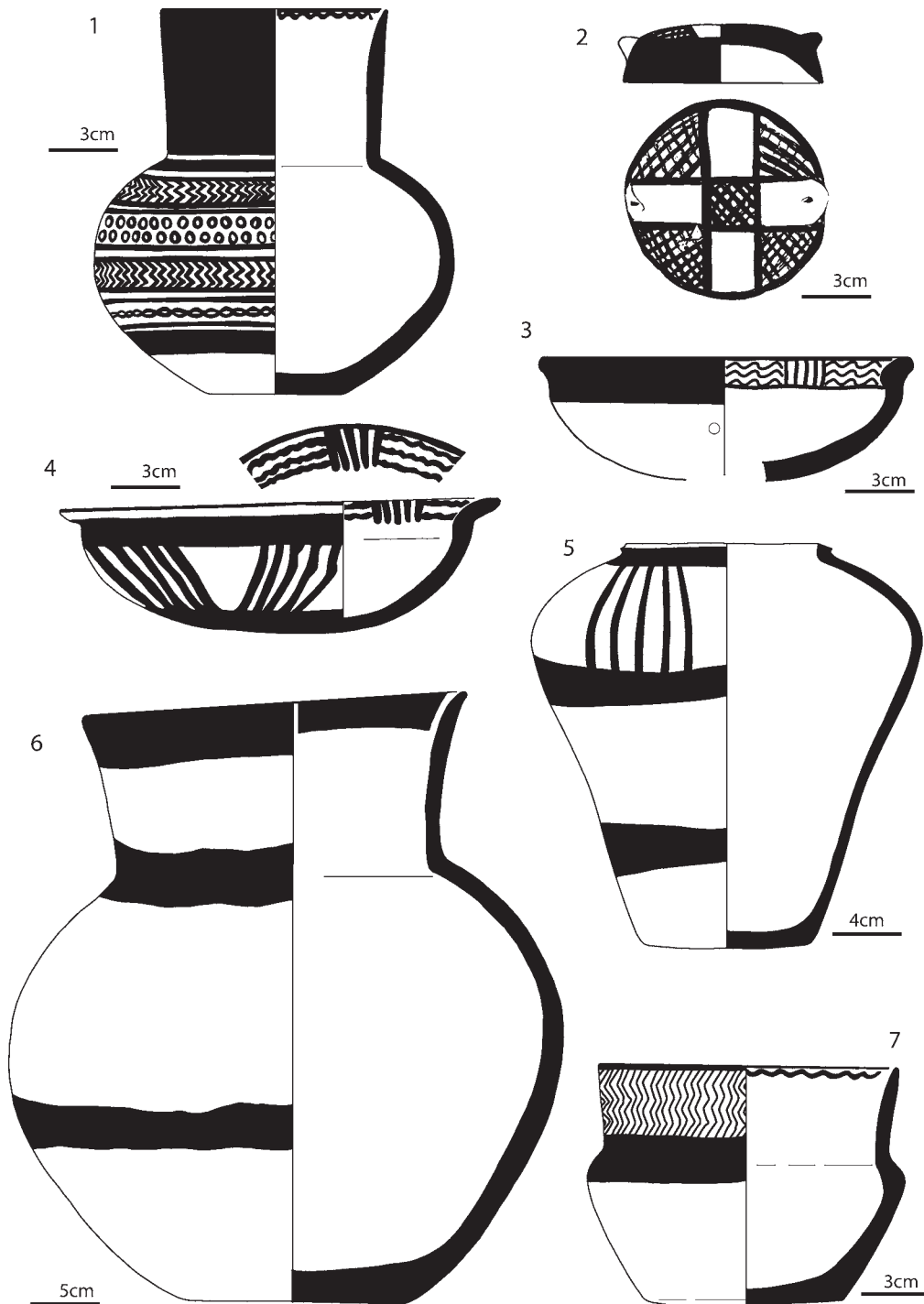


Fig. 8. Ceramics: Halaf, monochrome and local painted wares.

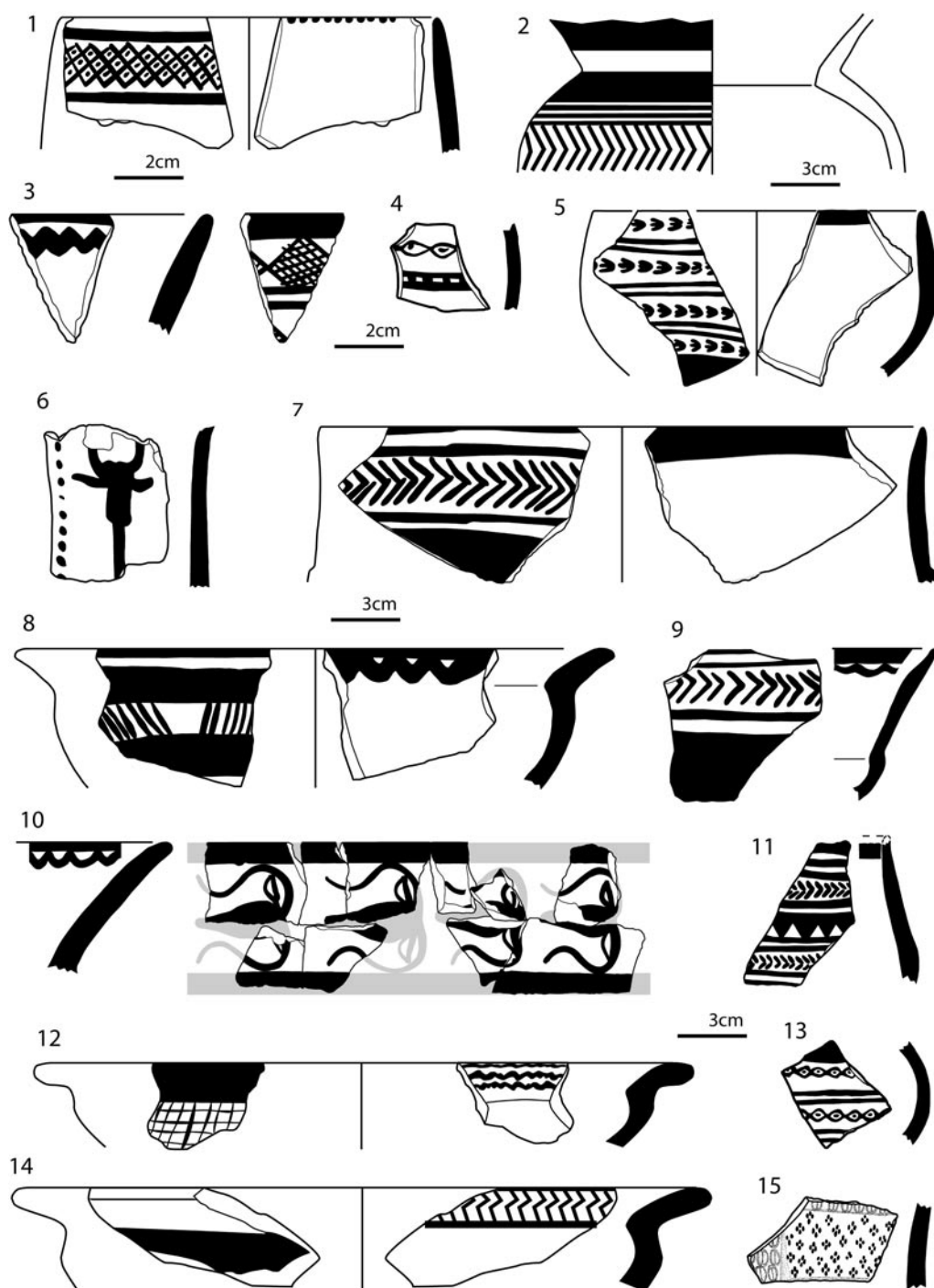


Fig. 9. Ceramics: Halaf, monochrome and local painted wares.

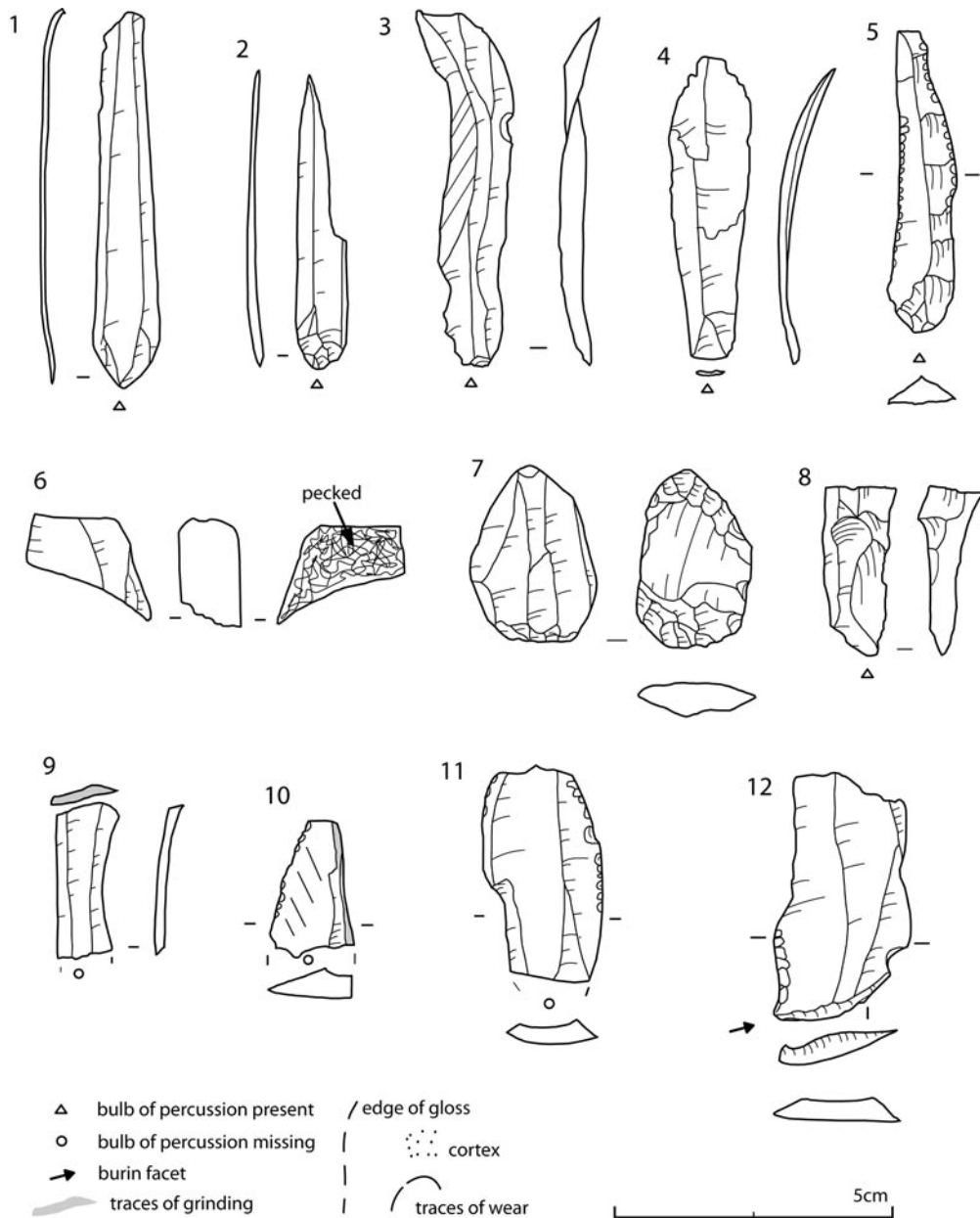


Fig. 10. Chipped Stone: obsidian.

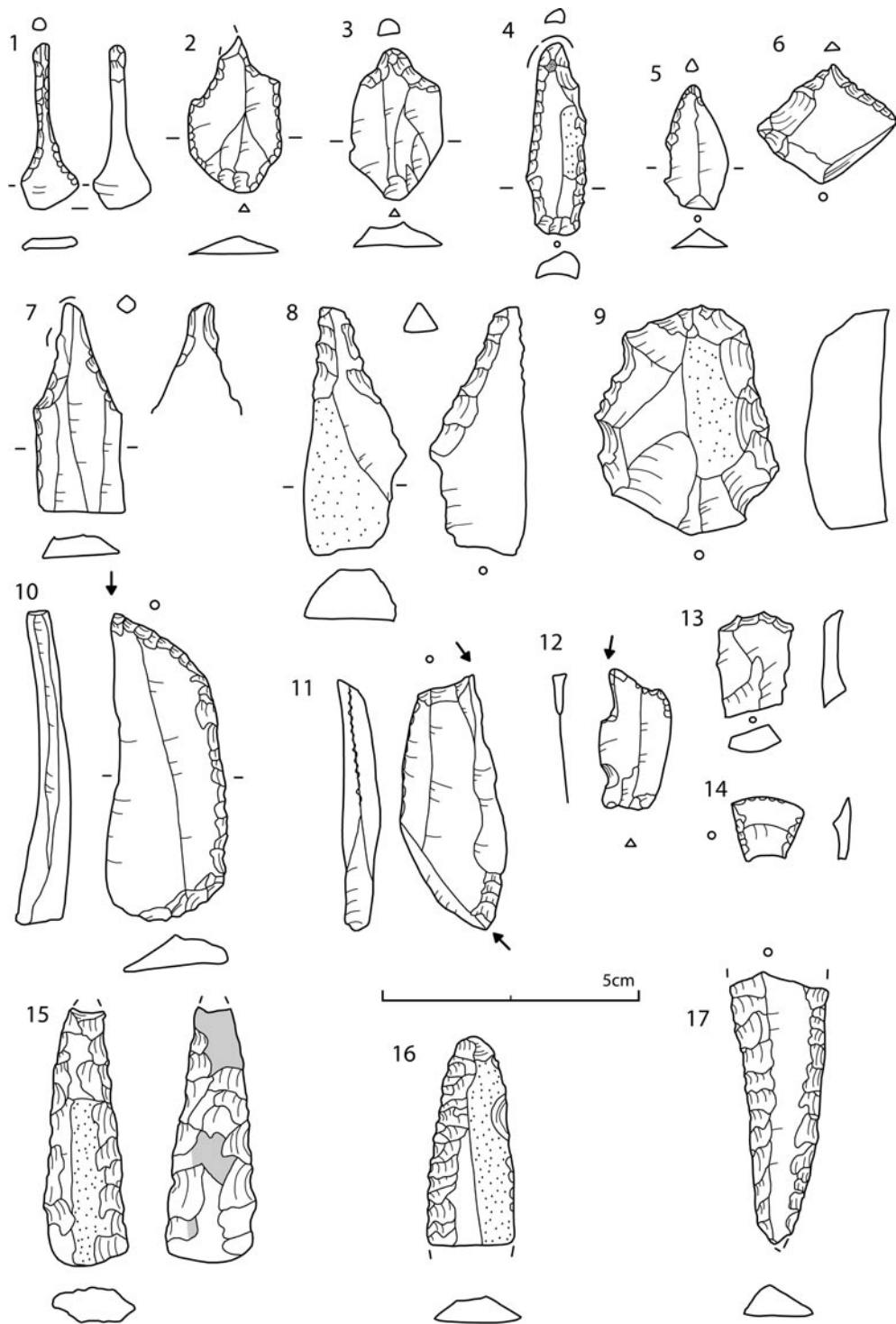


Fig. 11. Chipped Stone: flint drills, points, burins, bifacials and scrapers.

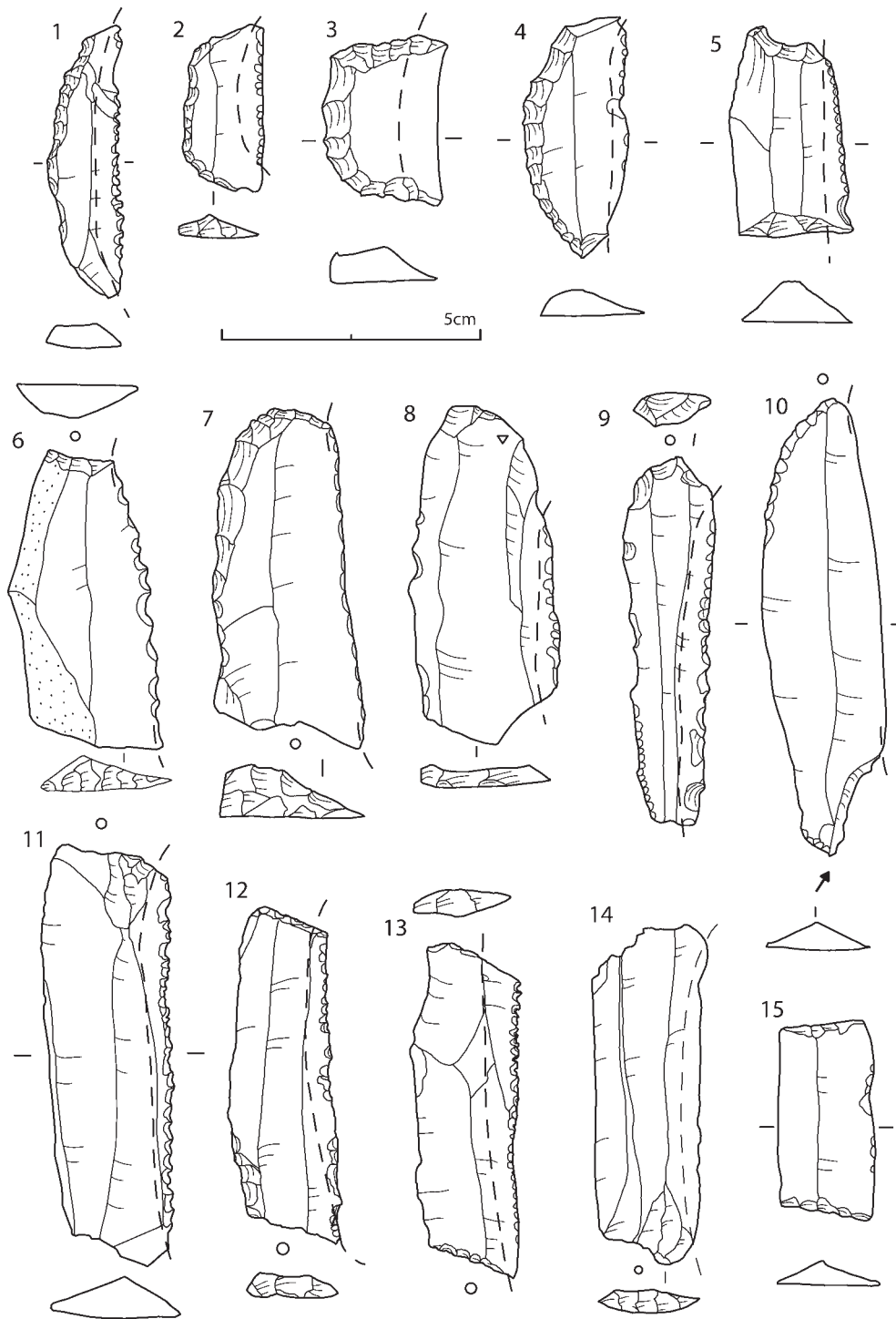


Fig. 12. Chipped Stone: flint glossed blades.

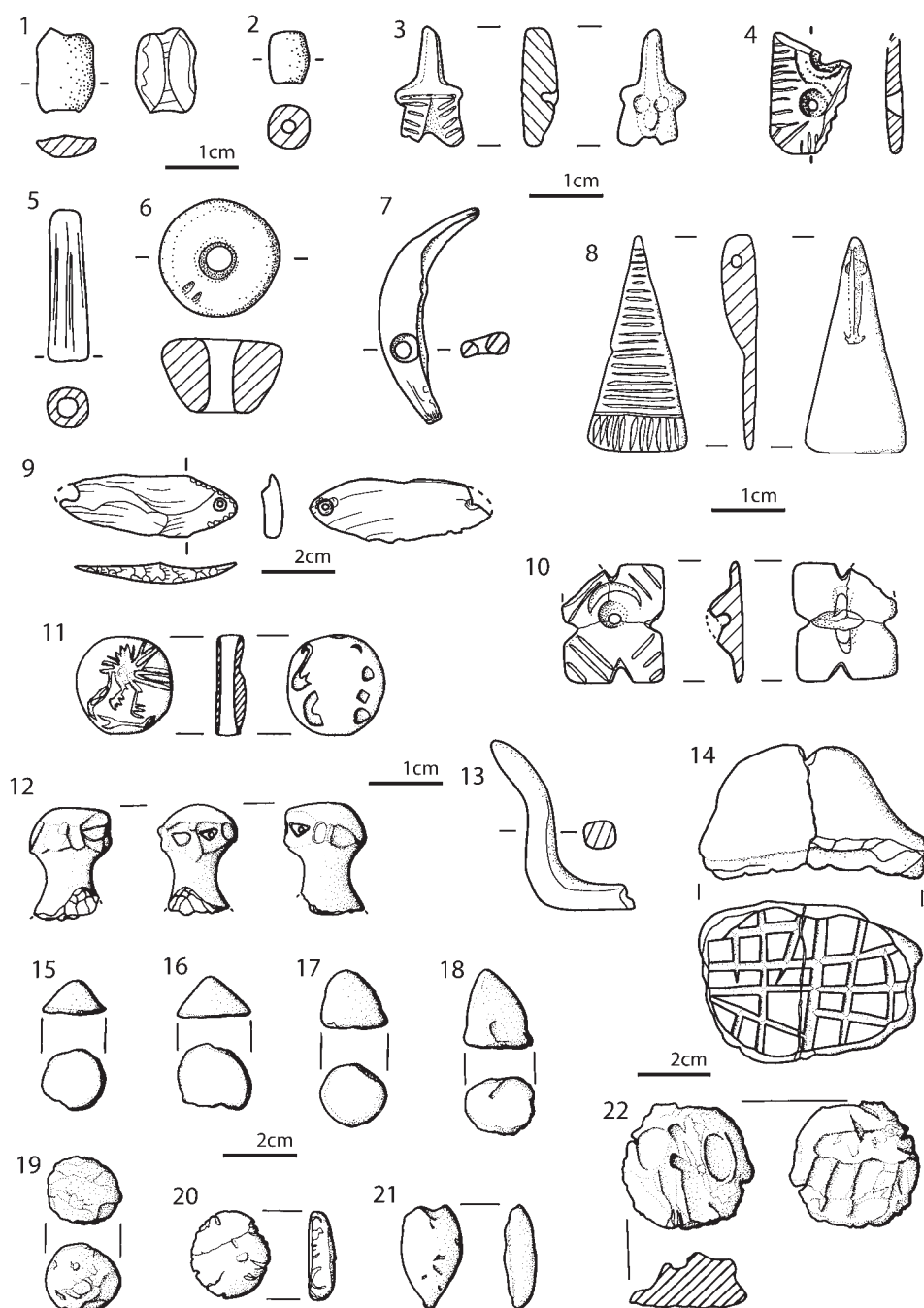


Fig. 13. Selected beads, pendants, seals, figurines and tokens.

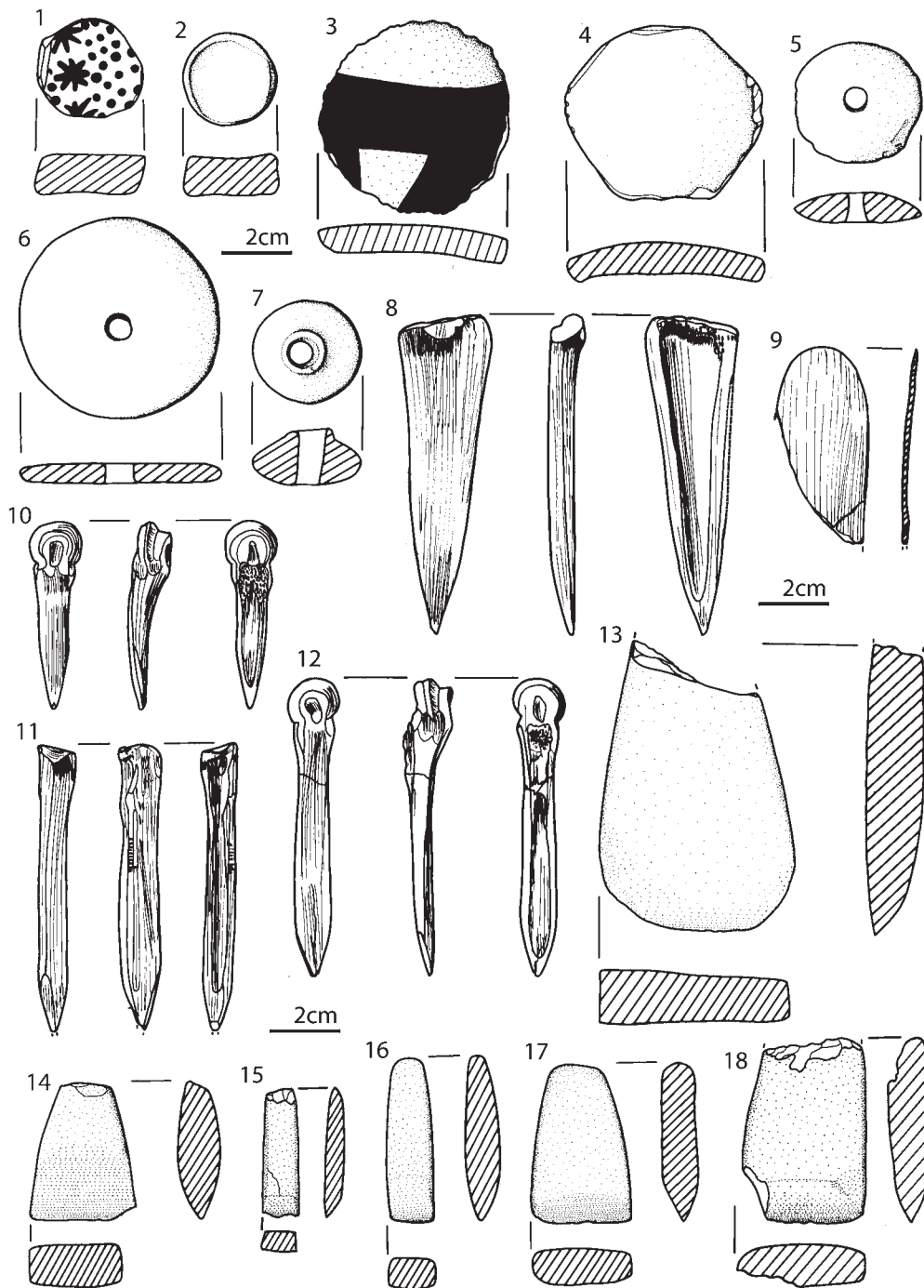


Fig. 14. Selected worked sherds, spindle whorls, bone implements and celts.

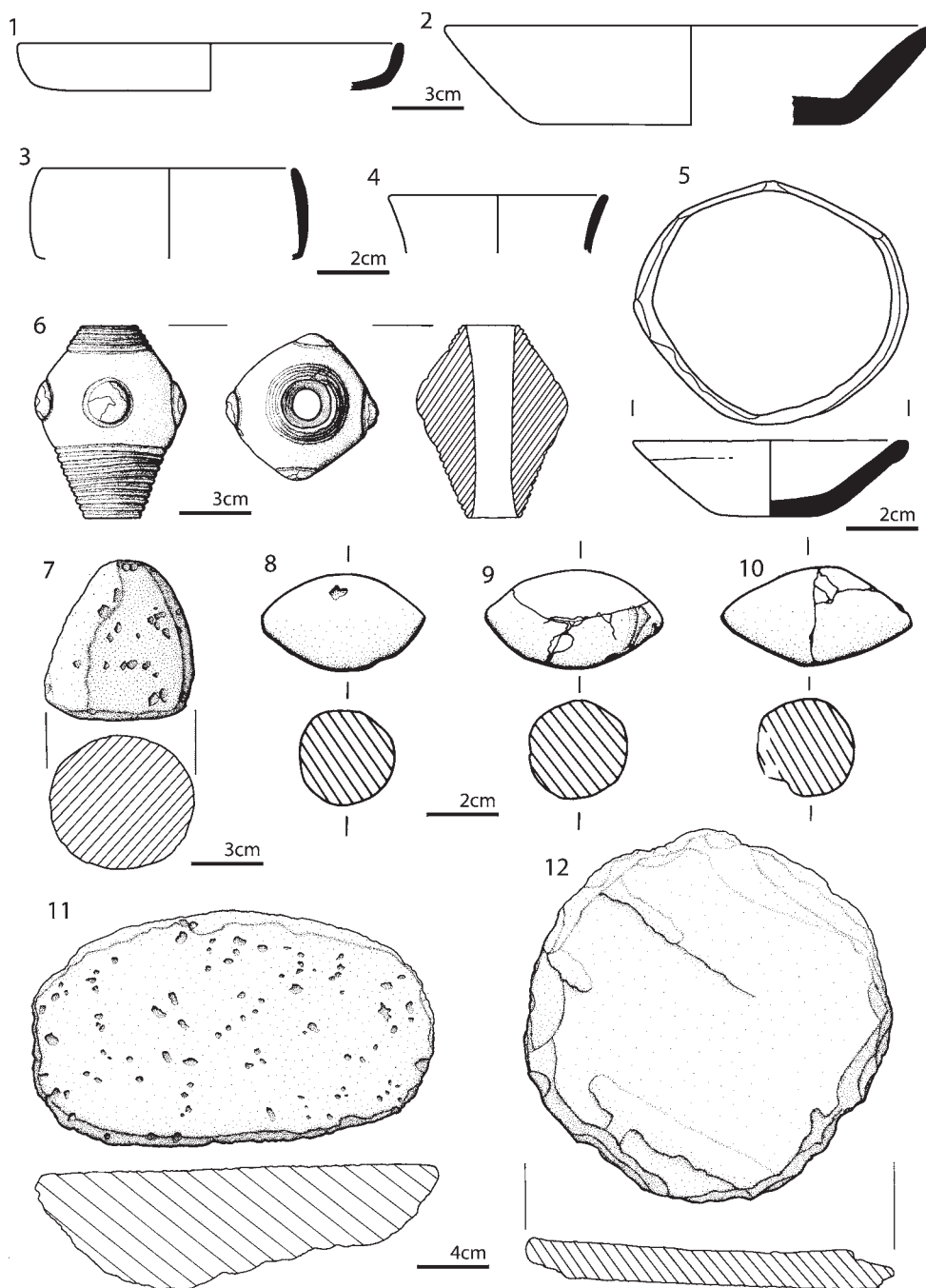


Fig. 15. Selected stone vessels, mace head, sling pellets, grinding and hammering stones and pot lid or stand.

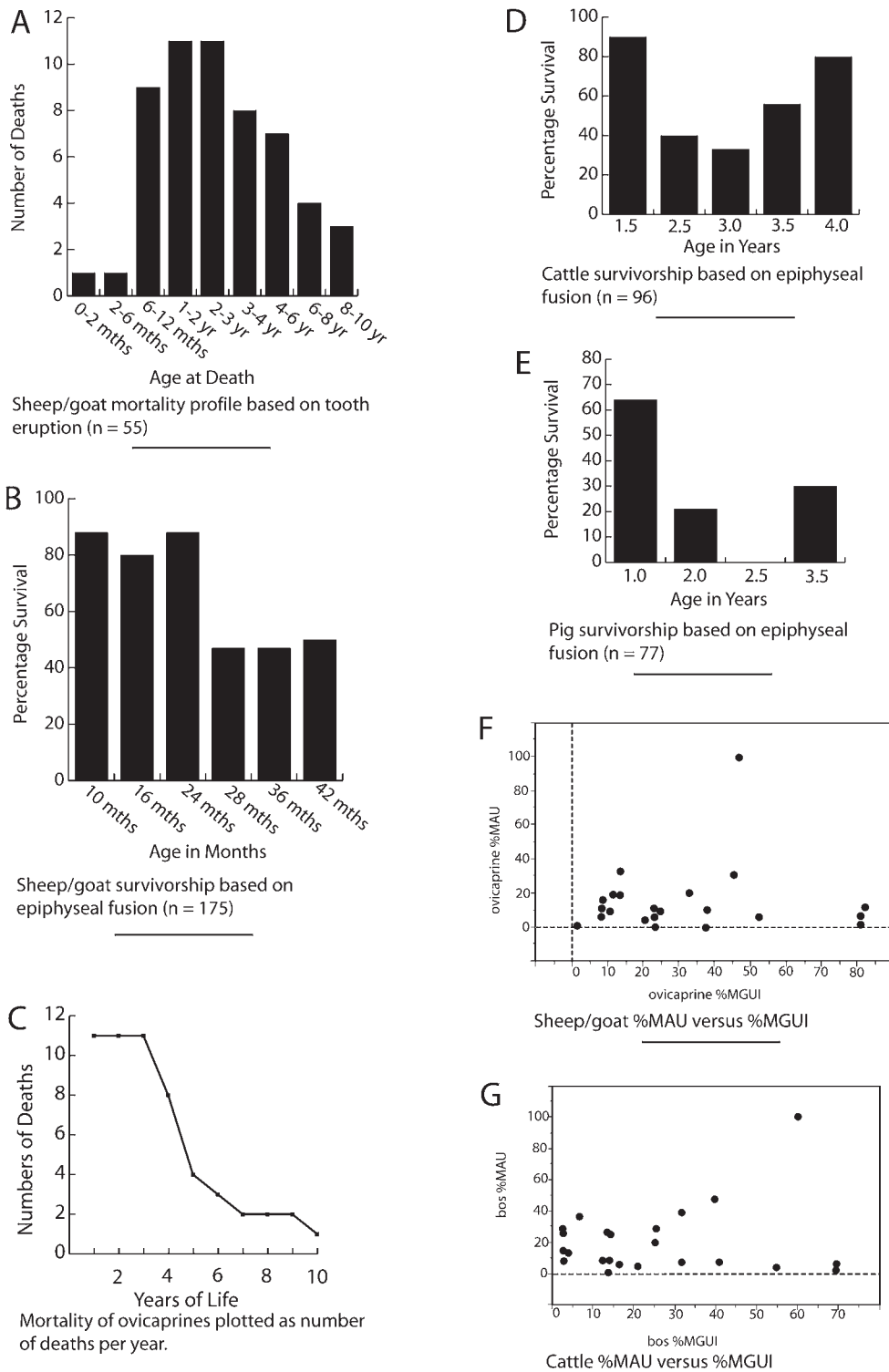


Fig. 16. A-G: fauna diagrams.

NEW DATA FOR THE DEFINITION OF THE DFBW HORIZON AND ITS INTERNAL DEVELOPMENTS. The Earliest Phases of the Amuq Sequence Revisited

Francesca Balossi

ABSTRACT

The recently renewed excavations at the Cilician Neolithic site of Yumuktepe have guaranteed a large baulk of well stratified ceramics the classification of which has resulted into an excellent comparative material for the analysis of the settlement's relations with the contemporary neighbouring societies of the Amuq, the Rouj basin and the site of Ras Shamra, in Syria. The analogies in the pre-Halaf ceramic production of these regions, which were considered by Braidwood and by all scholars after him as part of a single "Syro-Cilician culture", are here pointed out and bring to reconsider the participation of these regions within the single cultural development identified by Braidwood. Analogies and disparities between sites and regions bring to re-define the boundaries of this Horizon.

The classification and comparison of the pottery, with special attention to the Dark Faced Burnished Ware (DFBW), diagnostic precisely of this regional culture, is used to propose a stratigraphic correlation of the sites, slightly divergent from that traditionally used by scholars. With the few radiocarbon dates available, a first attempt to fix these phases into a chronological grid is also made. An examination of the DFBW from these different sites is also aimed at diminishing the confusion that reigns today in its recognition.

This revision of the Amuq sequence in particular, on the basis of more recent data from the other sites, brings to some important considerations on the early Amuq developments and its inter-regional relations.

Keywords: Neolithic, Cilicia, Yumuktepe-Mersin, Amuq, Rouj, Dark Faced Burnished Ware, Syro-Cilician Culture, Pottery, Chronology

INTRODUCTION

Any research in the prehistory of the Near East passes by Robert and Linda Braidwoods' work and writings. With their investigations they touched the east (the Iran-Iraq "hilly flanks" and mountains), the north (the Çayönü project in Anatolia) and the West (the Amuq), in probably one of the broadest field projects (The Joint Prehistoric Project of the OIC). Enormous was the amount of data they collected and its study has,

since the beginning, provided a cultural and stratigraphic grid to which all archaeologists still return to today. Most of the archaeological projects going on at this time in the prehistoric Near East inevitably take their initial data from that of the OIC Prehistoric team and often build their first working hypotheses on the observations made by the Braidwoods.

The Amuq sequence, amongst these, is probably the most complete and the one to which every western site's stratigraphy is compared to, at least for levels from the Neolithic up to the Bronze Age. This is valid also for its earliest Neolithic stages (Phases A and B) that are defined, though, basically on data from one single site, that of Judaidah, even though material from such phases was also found at tell Dhahab¹. At Judaidah, one single trench reached the Early and Middle Ceramic Neolithic periods, nominated by Braidwood as phases A and B; this was trench Jk3, that had started off as a 10 x 15m excavation, but, by the time it got down to phase B, its size had greatly diminished. It is not said to exactly what size it had reduced, but we do know that the total amount of phase A soil removed, at Judaidah and Dhahab together, was of 41,2 m³, thus the Judaidah trench must have made up a very small area indeed. Furthermore, the water level had been encountered whilst digging phase B levels at Judaidah, thus making the excavation nearly impossible. Obviously, no architectonic remains have been recognised and levels too change mostly on an arbitrary basis.

Full definition of these phases was given by the Braidwood's in Chicago, after a thorough study of the sampled materials, essentially ceramics in the case of phases A and B². The main production of these levels is the category of ceramics called by Braidwood Dark Faced Burnished Ware (DFBW). It is from these studies that the first definition of a "Dark Faced Burnished Ware Horizon" was given. It identified an area, comprising the Amuq and, more to the north, Cilicia, represented by the site of Yumuktepe (modern Mersin), that was hypothesised as forming a single cultural development, with a somewhat analogous structure to that of the eastern Neolithic culture of Hassuna (fig. 1)³.

Since then, all archaeologists involved with research on Neolithic communities in the western regions of the Near East, have used the Judaidah sequence as a reference point, for both chronological and cultural interpretations of the settlements by them excavated, since this has effectively been for many years the most complete and solid sequence available. De Contenson, in 1982, proposed a correlation between the early Ras Shamra sequence and that of the Amuq⁴, and later Breniquet did the same with the Yumuktepe sequence⁵. Matthers, in analysing the material from the survey of the Qoueiq, a region actually very near to that of the Amuq and with similar material culture, adopted directly the sequence of the latter for its own area⁶. Today still, research on early

¹ Dhahab, though, having no proper stratigraphic subdivision, cannot help as Judaidah in the analysis of the evolution of ceramic production in the region.

² Braidwood and Braidwood 1960: 29.

³ Braidwood and Braidwood 1960: 502.

⁴ De Contenson 1982.

⁵ Breniquet 1995.

⁶ Matthers 1981.

Neolithic sites in the Rouj Basin (Syria) uses the Amuq to discuss its stratigraphic sequence⁷.

None of these works though have yet tried to re-read the Judaidah sequence proper, on the basis of the new available data. Results and material collected from these Neolithic phases are now so abundant that I believe such an aim can be pursued. Systematic excavations have in fact been started in the early 90s in the Rouj basin by the university of Tsukuba⁸, as well as at Yumuktepe (Mersin⁹) by the universities of Rome and Istanbul¹⁰. The occasion for looking through this material has been given by my PhD study of the Yumuktepe assemblage relative to these early pre-Halaf phases, work which has also brought me to Chicago, precisely to compare this material with that of the Amuq¹¹. Direct comparison between this and the Rouj material was also carried out. The greater completeness of data from the more recent excavations at Yumuktepe and in the Rouj Basin, not only because of more advanced excavation techniques but also because of greater time availability and excavating conditions, has permitted a deeper analysis of the Judaidah material and thus provided a series of interesting and new observations on the site's sequence.

THE DFBW HORIZON – THE TRADITIONAL DEFINITION OF ITS BOUNDARIES

The pre-Halaf occupation of phases A and B, in the Amuq plain, which has been defined by Braidwood exclusively on the basis of its ceramic production, has rare if not absent architectonic remains and the other, non ceramic, finds are so few that little do they tell on these early developments. The Rouj basin and Yumuktepe are much richer in data from this point of view, as more extensive excavations have brought to light various structures and categories of objects. The pre-Halaf, Ceramic Neolithic phase in the Rouj basin is period 2, whilst in Yumuktepe it is represented by levels XXXIII-XX. Changes in the pottery production within these phases are, in all three regions, great, as the following paragraphs will evidence.

Amuq phases A and B are characterised mainly by the presence of DFBW and smaller quantities of Coarse, chaff tempered, Ware. A Red Washed Impressed Ware is also present in both moments, but is a very particular category of pottery, as will be pointed out further on. Later phase B sees the development of two new classes: the Dark Faced Unburnished Ware and the Brittle Painted. Next to these, changes are visible both in the DFBW and in the Coarse Ware, which is often decorated with incisions or red slipped.

Sites in the Rouj basin evidence, for period 2, a very similar composition of their ceramic assemblage, as already pointed out by the Japanese scholars working in that

⁷ Miyake 1997 and 2001.

⁸ Iwasaki and Nishino 1991; 1992; 1993.

⁹ First excavations at this site had been carried out in the 30s by the university of Liverpool under the direction of Garstang. Garstang 1953.

¹⁰ Köröglü 1998.

¹¹ Balossi 2002.

area¹². A Coarse Ware in all similar to that of the Amuq is present and is also incised or red slipped in the later phases of period 2, when the Unburnished Dark Faced Ware develops too. As in the Amuq, the great majority of its production is DFBW. Later phases of the Rouj 2 period, furthermore, see the beginning of painted pottery, some decorations of which are indeed similar to those of the Amuq. Other elements are present in the Rouj assemblage that have not been found in the site excavated by Braidwood, but these, rarer, weigh less upon the general composition of the ceramic production. These strong similarities between the Rouj and Amuq are generally considered as indicative of their participation within a same cultural development.

The coastal, Syrian site of Ras Shamra, fits quite well in this picture, as it too has a great majority of DFBW and a “céramique friable” (coarse and chaff tempered), similar to the Amuq Coarse Ware. Painted ware that develops just before Halaf period, furthermore, has evidence of decorations analogous to those of the above-mentioned sites.

Last of all, Yumuktepe, the other site that Braidwood had considered as part of the Amuq Cultural development, indeed evidences the DFBW, diagnostic of the cultural Horizon. After a first phase composed essentially by DFBW, some mineral (as opposed to vegetal) tempered, light coloured pottery appears. Garstang has never given quantities of these classes of pottery, reason for which it was impossible to know what role this latter pottery had within the assemblage. Certainly, no one has ever assimilated it to the Amuq Coarse Ware. In general, though, the presence of the DFBW was considered diagnostic enough to hypothesise the participation of Yumuktepe within the same cultural horizon of the Amuq, Rouj and Ras Shamra.

Together with these sites, many are considered, by the single excavators or by a larger scientific community, as part of, or as related to, the DFBW Horizon, since dark burnished ware is found during excavation. The nuclear and most important sites are those mentioned above, though, and on these will concentrate this work, through an analytical consideration of the pottery from the different occupation levels of Yumuktepe and a comparison with that of the other mentioned sites, in order to better define these inter-regional relations and to link their stratigraphic sequences. This work will reach a slightly divergent view on the definition of the DFBW boundaries from the most common one cited above.

Amuq A

Judaïdah

Amuq A, identifying the first known ceramic development of the Antakya region, has always been correlated to equivalent early stages of other western sites. De Contenson thus made it start with Yumuktepe's level XXXIII and Ras Shamra's VB, and Breniquet did the same for Yumuktepe (tables 1 and 2). Data on the Rouj basin was not yet available to neither of these scholars, but when excavation took place, in the 90s, at Kerkh

¹² The sites of the Rouj basin that have evidenced these levels of occupation are Ain el-Kerkh, el-Kerkh 2, Aray 1, Aray 2 and possibly Abd el-Aziz.

2 and Ain el-Kerkh, it became evident that something was going on in these regions even before Amuq A.

Amuq phase A, corresponding to Judaidah levels Jk3 28-25, is characterised by the presence of essentially one large family of ceramics: that of DFBW, constituting around 80% of the assemblage, and by the Coarse Simple, chaff tempered, Ware. A very small percentage of what Braidwood called Red Washed Impressed is also present.

The DFBW is described to be of dark, but also often of light dull grey-brown and buff tones, and in some cases has a slipped, self-slipped or smoothed surface, even though it is mostly burnished¹³. Shapes are mostly of straight and deep walled bowls, but some necked or hole-mouth jars are also present. Bases are often flat and ledge handles common. Some rims, flat but kind of pointing towards the interior, appear to be particular of this phase, as they will not be so common later on (fig. 2). Last of all, decoration is found on approximately 11% of the sherds and it is always impressed¹⁴. Impressions are generally of small segments, fingernails or points, repeated, singularly, many times on the body of the vessel (fig.3).

The Washed Impressed Ware is essentially a class of small bowls of DFBW, well burnished and decorated with finger impressions and a red wash.

Matson, who carried out some archaeometric analyses on the Amuq material, has indicated that DFBW from Judaidah could be separated into two compositional groups, that he calls respectively the “*actinolite type paste*” and the “*calcite in red clay*”¹⁵. Sherds from these two groups, not separated but noticed by the archaeological classification done by the Braidwoods and their colleagues¹⁶, also appear to have distinct wall thickness: generally thinner the first and slightly thicker the second. The latter also appear to be those with the ledge handles (lugs). Colour too separates the groups, as the actinolite type paste is mostly dark, whilst the other group has light brown, buff and red surface colours. The first, furthermore, generally has a better quality burnish. The shapes reconstructed of the second group are exclusively large bowls, whilst amongst the “*actinolite paste*” are also hole-mouth and collared jars.

As I tried to separate, at the OIC, these two groups of pottery, I realised that their stratigraphic distribution was distinct: most of the “*calcite in red clay*” sherds are concentrated in the earliest levels of the Judaidah sequence, precisely in Jk3 28-26, where the other dark burnished sherds are instead fewer. Level 25 has, the opposite way round, many more finer dark burnished sherds than these thicker and light, sandy ones. There is thus, apparently, at Judaidah, a chronological distinction between the “*calcite in red clay*” group of DFBW and the rest of the dark burnished pottery. What appears to be most strange of all this is probably the fact that Braidwood kept the “*calcite in red clay*” group

¹³ Braidwood and Braidwood 1960: 49.

¹⁴ Braidwood and Braidwood 1960: 51.

¹⁵ Matson's notes in Braidwood and Braidwood 1960: 49.

¹⁶ Even though Braidwood didn't believe this to be a strong enough reason for creating two separate classes or families of ceramics, he had noticed that a group of sherds within the DFBW of phase A was rather lighter coloured and had ledge handles, whilst not so was for another group of sherds. The percentage and description he gives for the first of these groups is so near to that given by Matson for the “*calcite in red clay*” sherds (23% of the DFBW sherds) that it is most probable that these groups coincide. Braidwood and Braidwood 1960: 50.

of sherds together with the DFBW. In fact, the light colour and the presence of slipped surfaces are two characters that one would not expect to find amongst the DFBW.

The Rouj Basin

The first Ceramic Neolithic phase of the Rouj Basin (period 2a) is characterised by the presence of the so-called Kerkh Ware, a highly granular crude, thick pottery (about 10mm), with a sandy/mineral paste and a burnished, or at times smoothed, surface¹⁷. The paste can also have mica inclusions and a variable texture, from rather granular to fine¹⁸. Colour is light brown, buff or greyish and burnishing is in general of not too good quality. Shapes of this ware are generally thick hemispherical and globular bowls, at times with flat bases, but in general with a more rounded bottom. Next to this pottery, even though in small quantities, are Coarse Ware and Dark Faced Burnished Ware¹⁹.

The Japanese excavators of the Rouj region rightly pointed out that the absence of the Kerkh Ware from the earliest levels in the Amuq indicated a greater antiquity of Rouj phase 2a in respects to Amuq A (table 3)²⁰. The continuity in occupation between Rouj 1 (PPN) and 2a at el-Kerkh 2²¹, furthermore, convinced them of this temporal distinction, as, at Judaidah, no pre-pottery levels have been found below phase A, thus leaving open the possibility that preceding phase A might be some ceramic phase undocumented at the site²². Neither Yumuktepe, with its long Neolithic sequence, nor Judaidah, would appear to have any testimony of this early phase.

Rouj 2b has a series of innovations in the ceramic production which are all elements classically considered as characterising Amuq A (table 4). The Kerkh Ware, even though it still doesn't disappear, gives way in this phase to the Coarse Ware and to the category traditionally called DFBW. The first is described as a heavily chaff tempered pottery with no particular surface treatment and moulded probably into large jars and bowls. It appears most obvious that this and the Amuq Coarse Ware are the same thing²³.

DFBW is the most abundant class in this period. Thickness of the walls varies quite a lot, with cases of 2-3mm. Surface colours of the DFBW are not always mentioned in the Japanese reports; Miyake indicates variations from dark brown to reddish brown for Kerkh 2, with a prevalence of dark colours²⁴ and according to my observations at Ain el Kerkh these are, similarly, brown, reddish-brown and grey, but blacks appear to be nearly absent in this period. The same can be said of DFBW (*actinolite group*) from phase A2 in Judaidah. The deep hemispherical bowl, again as at Judaidah, is the most present and, in some, ledge handles (fig. 2), or decorative motives as bands, "buttons", or half moons, are applied under the rim. Necked jars, mostly with a straight neck, are also seen (fig. 2). Another important character of period 2b DFBW is the high presence of impressed

¹⁷ Iwasaki *et al.* 1995: 147; Tsuneki and Miyake 1996: 114.

¹⁸ Tsuneki and Miyake 1996: 114.

¹⁹ Miyake 1997: 59; Miyake 2003: 120, 126.

²⁰ Miyake 1997: 55.

²¹ Iwasaki and Nishino 1993: 68.

²² Virgin soil was reached directly under pottery phase A. Braidwood and Braidwood 1960: 46.

²³ Tsuneki and Miyake 1996: 120-121.

²⁴ Miyake 2003: 122.

decoration, in all similar to that of the Amuq (fig. 3). Particular and worth noting is, finally, the presence of flattened rims, with an internal thickening, analogous to some Amuq A rims (fig. 2).

Yumuktepe

Material from the earliest levels at Yumuktepe is still not very abundant²⁵, having these levels been excavated only in two very small deep soundings (SA and WA) by the recent excavations and in one single trench (A) by Garstang; furthermore, the aim of the recent soundings was that of collecting botanical material and of reaching virgin soil and not of extensively exposing such early phases²⁶.

The earliest pottery found, just above virgin soil, has no vegetal inclusions, but is highly sandy in temper with a paste of medium size and homogeneous texture (I will, here, refer to it as Sandy Ware). Fragments are quite thick, ranging from 8 to 15 mm, surface colour is light (cream to pinkish or buff) and generally slipped on the exterior. Most of the time, the slip is also burnished, whilst the inside surface has no slip and is only smoothed. Although whole shapes have not been reconstructed, this ware appears to have been moulded exclusively into flat based bowls. Shapes of this Sandy Ware have not been reconstructed yet, but flat bases are visible.

Next to this, already from level 3 of deep sounding WA, a Dark Faced Burnished Ware (DFbW²⁷) of intense brown colours, mineral temper, very thin walls and fine texture, and, of course, burnished surface, appears.

In Yumuktepe levels XXIX-XXVIII the Sandy, slipped Ware of the earliest phases disappears, when DFbW is instead the main and nearly exclusive ceramic production. This early DFbW is very homogeneous, fine or medium-fine in texture, with vessel walls ranging from 3 to 8 mm, but mostly of 6 mm. Surface colours are of various tones of brown or reddish brown, whilst the very dark colours, that will be typical of the later DFbW of the site, are never seen. Very common is also a kind of scarlet or violet-brown. All fragments are carefully burnished, but never polished as will instead be later. Shapes are typically of hole-mouth jars and very deep straight or slightly inverting walled bowls. Rims are mostly plain, but some peculiar characters of the profile are evident, as rims thickened in the interior or abruptly cut (fig. 2). Similar rims have also been mentioned for the Rouj and Amuq. Bases are always round. Some of these sherds have an impressed decoration of semi-moon (fingernails) or straight segments (fig. 3).

No Coarse Ware is present at Yumuktepe, nor Red Washed Impressed Ware, thus underlining some distinction in the ceramic assemblage with that of the Amuq and Rouj. The strong similarities in the DFbW though, do indicate, in my opinion, strong ties.

²⁵ Balossi 2002.

²⁶ Caneva 1998: 108.

²⁷ I will abbreviate this category as DFbW instead of DFBW, in order for it to be distinguished from Braidwood's term and from the generic definition at times used to indicate this class of pottery. DFbW will thus be a very specific class of burnished pottery from Yumuktepe.

Ras Shamra

The coastal site of Ras Shamra too evidences, as has been said, in its earliest levels, strong analogies with the Amuq and Rouj regions. 94-97% of its earliest ceramic VB phase is characterised by DFBW, thus also quantitatively as important as in the Rouj and Amuq assemblages. This dark burnished pottery was decorated by impression, with motifs very similar to those of the early phases of the other two areas, and abundant were lugs, just like in early Judaidah and Ain el-Kerkh. Shapes were generally globular bowls or collared jars, thus again as in the Rouj and Amuq. Next to the DFBW was a “céramique friable”, chaff tempered, with quite thick walls and cream or pinkish-yellow surfaces. This pottery appears in all similar to the Coarse Ware of the other two areas.

Relations between Sites in this Early Period

This summary of the earliest ceramic productions from Judaidah, Yumuktepe, the Rouj basin and Ras Shamra have probably well evidenced the existing links between them, as well as the diversities. A first important aspect is the absence, from Yumuktepe, of the Coarse Ware, that characterises instead the Amuq, Rouj and Ras Shamra. This fact might bring to see the Cilician site as slightly distinguished from the more southern communities, but this will be discussed more thoroughly later on.

I believe important, now, a few observations on the Kerkh Ware, the category viewed as the earliest in this regional development and generally considered as testified solely in the Rouj. Matson's description of the group of DFBW that he calls “*calcite in red clay*” seems to resemble, in my opinion, the image of the Kerkh Ware. Paste is sandy, thus courser than that of the rest of the DFBW, surfaces are sometimes slipped or smoothed, colours are lighter, vessel walls are thicker. I feel quite confident to confirm this impression also after having personally seen both these type of sherds, from Judaidah and from the Rouj. Shapes are in both cases mostly those of open or hemispherical bowls, often with flat bases. The only evident difference appears to be the rarity, in Kerkh Ware, of ledge handles, very common amongst the “*calcite in red clay*” DFBW. Impressed decoration is never mentioned for Kerkh Ware, nor does Matson talk about any amongst the “*calcite in red clay*” group. Furthermore, I have personally seen no decoration on the thicker and lighter coloured sherds from Judaidah A, held at the OIC.

Another important aspect that might confirm this analogy between the Kerkh Ware and the “*calcite in red clay*” DFBW is the stratigraphic distribution of these sherds; it has already been said that the “*calcite in red clay*” DFBW is mostly limited to the earliest levels of the Amuq A sequence, whereas in Jk3 25 it is the other “*actinolite paste*” group that increases strongly. The same happens in the Rouj where Kerkh Ware gives way to the DFBW of period 2b.

The DFBW of Rouj 2b furthermore appears to correspond to the one described as “*actinolite group*” in the Amuq. Colours and shapes are similar, as well as surface treatment and paste

DFBW is found in very high percentages both at Judaidah and in the Rouj (DFBW constitutes 80-90% of the total assemblage)²⁸. I believe this to indicate strong relationships between the two regions, that are also confirmed by the presence of Simple Coarse Ware in both areas.

Even though only further research in the Amuq can confirm this, I feel we could hypothesise that the Amuq too, in its earliest phase, had a Kerkh, or similar, Ware (table 4). This would indicate a contemporaneity in the first ceramic occupation testified by both areas and the existence of relations already from that time. It is possible that the earliest levels of Judaidah phase A (Jk3 28-26) were contemporary to Rouj 2a (table 5), whilst the last Phase A level, with higher presence of dark burnished ceramics (Jk3 25), would be the one correlating with Rouj 2b, as proposed by Miyake (table 3). The Judaidah phase A levels would thus have to be separated in two distinct moments, that I here call A1 (corresponding to Jk3 28-26) and A2 (Jk3 25) (table 5). Such an observation would furthermore be in accordance with a similar statement made by Miyake, who suggests that, on the basis of materials from the Rouj site of Tell Aray 2, the Amuq A period could be divided into several sub-phases²⁹.

A last aspect of the ceramic production of Judaidah still remains partly enigmatic: that of Red Washed Impressed Ware. While quite frequent in Judaidah (phases A2-B), this pottery is never illustrated from the Rouj. The presence of a DFBW with red washed decoration is listed twice, though, in the Rouj reports³⁰. The contemporary site of Qminas, to the east of the Rouj Basin, furthermore, has clear evidence of Red Washed Impressed Ware, fact this which would make one believe it highly improbable that the Rouj didn't have any.

Moving now to Yumuktepe, I would centre the attention on the Sandy Ware found in the earliest and deepest trenches (WA-SA). Many of the attributes of this category of ceramics seem to remind the "*calcite in red clay*" group recognised by Matson in Amuq A, as its colour, paste, thickness, and possibly its shape (flat bases). Even though a greater sample of this ware is needed to be able to state with certainty the analogies with the Amuq class of pottery, the fact that these two sites show common trends in the ceramics of other phases too, does indicate that there is a good chance that this Sandy Ware and the "*calcite red clay*" group of sherds belong to a same or similar category of pottery. This would, obviously, mean that the Yumuktepe Sandy Ware and the Rouj Kerkh Ware should be considered analogous ceramic productions too. Correlation between the DFBW that appears in trench SA and Matson's "*actinolite paste*" group from Judaidah, furthermore, is quite evident. Again, the stratigraphic distribution of these two categories, with the Sandy Ware earlier on, that gives way, later, to the DFBW, could well confirm these correlations.

Finds are unfortunately very few for these early levels in Yumuktepe and it is probably too early to infer a sure analogy between the Sandy Ware and the Kerkh Ware,

²⁸ Braidwood and Braidwood 1960: 49; Tsuneki and Miyake 1996: 118; Tsuneki *et al.* 1998: 12.

²⁹ Miyake 2003: 119.

³⁰ Tsuneki *et al.* 1998: 12; Tsuneki 2003: 127 note 8.

but I believe we should keep in mind this possible correspondence. Was this correct, stratigraphically, it would mean that Yumuktepe levels XXXIII-XXX, Amuq A1 and Rouj phase 2a were all contemporary (table 5), as well as Yumuktepe XXIX-XXVIII, Amuq A2 and Rouj 2b.

In Yumuktepe levels XXIX-XXVIII, Coarse Ware does not appear. This is the first clue, in my opinion, of the separation of Yumuktepe from the Syrian ceramic tradition, fact this that will be even more evident in the following levels. Towards the end of the second phase of ceramic development identified (Yumuktepe XXVII), a very particular Pinkish Ware starts to appear, at Yumuktepe, that will take the site yet further away from the southern tradition.

Turning to the Syrian coastal site of Ras Shamra, on the basis of what has been said above, it can be concluded with a good degree of confidence that this site was participating, since its phase VB, within the same regional developments and relationships of which were part the Amuq and the Rouj, and, probably with minor intensity and varied modes, Yumuktepe. The stratigraphic correlation between Ras Shamra VB and the Amuq though, might not be that proposed by de Contenson (table 1); having I hypothesised for the first part of the Amuq A the presence of a Kerkh Ware or similar pottery and thus having moved the beginning of the Amuq sequence backwards to Rouj 2a, the Ras Shamra sequence would have to start sometime later, possibly with Rouj 2b and Amuq A2 (table 5). There is in fact, for the moment, no trace in Ras Shamra of a sandy, slipped and thick pottery that might resemble the Kerkh Ware. Were further investigations to identify a similar ceramic category, we would then have to admit an early phase for Ras Shamra too.

Yumuktepe XXVII-XXVI - Rouj 2c

Yumuktepe

Yumuktepe levels XXVII-XXVI are those most extensively excavated both by Garstang and by the new Italian investigations³¹. Important data on the architecture of the settlement as well as a very large quantity of ceramics have been retrieved. The ceramic categories distinguished in these levels are five, indicating an increase in variety and complexity of the production³². DFbW is no longer the only, nor the most common category present. The Pinkish Ware (class 1) nominated above becomes, here, the most abundant category. This is mineral in temper, of varying texture and wall thickness (3-9 mm), mostly with no surface treatment and generally a dark core. A second group of this pinkish-orange coloured ware is distinguished from this one (class 2), as its surface is smoothed, texture always finer and walls slightly thicker (5-12 mm). These two classes together sum up to 80% of the assemblage³³.

³¹ Caneva 1999: 2.

³² Balosi in print.

³³ The total number of sherds studied for these two levels is 21747, for a total weight of 218,022 kg.

Most interesting in this phase though, is the dark ware, that can be separated into 3 well distinct categories. One is basically the continuation of the DFbW present in the preceding levels (class 3), although with some technological and morphological changes, another is a Dark Faced unburnished Ware (class 4 - DFuW), in all similar to that described by Braidwood for the Amuq phase B, and the third is a Very Fine Dark Faced burnished Ware (class 5) (table 6). This latter class is formed by sherds of an extremely fine texture, so fine that even an observation at the microscope can't distinguish any of the paste components, and with very thin vessel walls, ranging from 2 to maximum 6 mm³⁴. Surfaces are black or dark grey and sometimes, but more rarely, of light grey, and burnished. In around 60% of the cases these are actually well polished and shiny.

These three categories of dark ceramics are well distinguishable, not only from their technical characters, but also from their shapes. In fact, the classical (classical because the nearest to Braidwood's description of the category) DFbW (class 3) is moulded mostly into deep bowls and some hole-mouth jars, the Unburnished Dark Ware (class 4) is mostly characterised by hole-mouth jars, many of them with strongly inverting walls, and the last group of Very Fine Burnished pottery (class 5) is identified by small plates, cups and bowls, that never exceed a diameter of 16 cm.

This phase of the Yumuktepe ceramics, in conclusion, sees a major development and increased complexity of the dark burnished pottery and the birth of a new and very important category of ceramics, all this in absence of painted decoration. This is important to be pointed out since the main innovation at Judaïdah after Amuq A is instead probably the introduction of painted ware (table 4 and fig. 4).

Rouj

In the Rouj too, as in Yumuktepe, there is a period, 2c, in which painted ceramics are still not present, and in which DFBW continues to develop quite importantly.

Coarse Ware, already present in Rouj 2b, has now, at times, an incised decoration or a red slip. 2c is the period in which Husking trays appear in the Rouj sites and the phase in which White Plastered sherds and White Ware are found (table 4)³⁵. The former is essentially formed by Coarse Ware or DFBW sherds totally covered with lime plaster. The latter is well known at coastal Neolithic sites as Byblos and Sukas or in the Beqa'a.

The Rouj DFBW in period 2c sees quite important modifications, amongst which that of shapes are the most visible. Sinuous and carinated profiles become common, together with high necked jars, and flaring profiles. Shallow, tray-like bowls are evident amongst the assemblage (fig. 5)³⁶. That of shape is the only major distinction between the Yumuktepe DFW (comprehensive of all the 3 dark classes) and that of Judaïdah and the Rouj. In fact, jars in the Cilician site were always moulded out of the Pinkish Ware of classes 1 and 2. In the 2 Syrian sites, as DFBW constituted the great majority of the ceramic assemblage, clearly all shapes were moulded from this ware. It seems to me that colours of the period 2c DFBW, as visible in the middle layers in Yumuktepe, see a

³⁴ Balossi *et al.* in print.

³⁵ Tsuneki *et al.* 1998: 16-18; Tsuneki *et al.* 1997: 20.

³⁶ Tsuneki *et al.* 2000: 7.

strong increase in dark tones, whilst the reddish and light browns often noticed in the preceding period diminish; this is a personal observation made on a sample of Ain el-Kerkh material and has yet no confirmation from the published data. The fact that a similar observation has been made both at Yumuktepe and, as will be seen, in the Amuq, could be somewhat taken as a guarantee of its validity in the Rouj too, though. From a technological point of view, paste appears to be generally finer and more homogeneous and burnish of better quality. Highly polished and thin walled vessels are nominated as characterising this phase and might recall the very fine ware that develops in levels XXVII-XXVI at Yumuktepe (class 5)³⁷. Impressed decoration declines strongly and so does the applied one, but pattern burnish appears for the first time. Amongst the few examples of impressed decoration are rocker impressions, as will be seen in Judaidah B (fig. 3) too³⁸.

Ras Shamra

Plastered Ware, Husking Trays and White Ware are absent from Yumuktepe, but Ras Shamra, nearer to the Syrian communities, evidences presence of all three groups. In phase VA, White Ware, Plastered sherds and Husking trays are found together³⁹.

DFBW of Ras Shamra VA, which constitutes a little more than 70% of the total ceramic assemblage at the site in that period, has darker colours compared to those of the earlier VB period, burnish is very carefully carried out, impressed decorations have strongly diminished from phase VB, whilst pattern burnish decoration first appears⁴⁰. These are the same characters that seem to develop in the DFBW of Rouj 2c (table 6). Furthermore, a class of finer and more well burnished DFBW vessels has been noticed by Courtois in Ras Shamra VA, which would correspond to Yumuktepe class 5 and the finer vessels of Rouj 2c⁴¹.

Judaidah ?

The main innovation of the Amuq B pottery is probably the introduction of painted ware (table 4 and fig. 4). Apparently this only appears here, as we have seen that it is not yet present in the levels following the earliest phases, at any of the sites examined above. Furthermore, elements as White Ware, Plastered Ware and Husking trays, found in the Rouj and at Ras Shamra in these phases, are instead absent from the Amuq region in phase B⁴².

DFBW from Judaidah sees a great deal of changes, that do go in a similar direction as those noted in the above sites, with the appearance of a fine ware and an unburnished one, as well as with the development of pattern burnish decoration and rocker impression. Coarse Ware, furthermore, as in the Rouj, is now also decorated by

³⁷ Tsuneki *et al.* 1998: 14.

³⁸ Tsuneki *et al.* 1998: 16.

³⁹ De Contenson 1992: 193, 150; De Contenson 1982: 95.

⁴⁰ De Contenson 1982: 95; De Contenson 1977: 12.

⁴¹ Courtois 1992: 216.

⁴² One single fragment of a possible husking tray has been found in Tell Kurdu, dated to phase C.

incision or with a red slip. These elements of the pottery assemblage, though, will also characterise a later phase of the Rouj and Yumuktepe ceramics, and will thus be reported of later.

Relations between Sites in the Rouj 2c Period

The absence of painted pottery from the Rouj and Ras Shamra is certainly puzzling, as the previous comparisons had shown that these sites had an assemblage in all similar, and, on this basis, their participation within the same cultural developments had been confirmed. At the same time, curious is the absence of White Ware, Plastered Ware and Husking trays from the Amuq, considering that these are present in a site to its west (Ras Shamra) and one to its east (Ain el Kerkh, in the Rouj).

The comparison of the dark wares of Rouj 2c, Yumuktepe XXVII-XXVI and Ras Shamra VA seem to indicate analogous developments and thus argue for a contemporaneity of these phases and existing relations between the sites. DFbW (class 3) of Yumuktepe levels XXVII-XXVI in fact appears to develop those same characters visible in Ras Shamra VA and in Rouj 2c (table 6). Colours are darker (mostly grey or black) and pattern burnish, even though rare, is seen.

Yumuktepe, though, has now strongly independent characters in its ceramic production. It is in these levels that the Pinkish Ware and Fine Pinkish Ware develop at Yumuktepe, thus definitely underlining the separate path that this site was beginning to follow. A further aspect that appears to differentiate Yumuktepe from the other sites in this phase is the appearance of the unburnished category of dark ware already in these levels (class 4); both at Ras Shamra and in the Rouj, this appears only with the levels of painted ware⁴³.

Having demonstrated Ras Shamra's participation within the regional developments of the Amuq and Rouj, the absence, from Judaidah, of various of the Rouj 2c and Ras Shamra VA diagnostic ceramic characters is, in my opinion, to be interpreted as a gap in the Judaidah sequence (table 5). The absence, in Judaidah B, of White Ware, Plastered sherds, and Husking Trays, but also the presence of painted ware, that in the other sites develops later, evidences, in my view, the fact that Rouj 2c and Ras Shamra VA represent a phase absent at Judaidah and earlier than Amuq B⁴⁴.

The fact that the DFBW of Amuq B appears to be, as will be illustrated below, similar to that of the Rouj 2c and Yumuktepe XXVII-XXVI levels, which I am here dating as earlier, is no obstacle to this hypothesis, as it will be seen further on that in these two areas no major changes evolve, in the subsequent phases (those that should thus be contemporary to Amuq B), in the DFBW/DFbW (table 6).

The absence from Yumuktepe of the same elements (White Ware, Plastered Ware, Husking Trays) (table 4) is probably to be explained, differently to Judaidah, by its major

⁴³ This distinction might partly be due to the subjectivity in the recognition of burnished surfaces and their distinction from simply smoothed ones.

⁴⁴ The presence of the single Husking tray fragment (Braidwood and Braidwood 1960: fig. 111, 10) from Tell Kurdu phase C furthermore testifies for the participation of this area within the Hassuna developments, of which Husking trays are one of the diagnostic elements.

distance and by the partial distinction of its assemblage, already testified by other classes (Pinkish Ware).

Even though Yumuktepe does not share the totality of its pottery assemblage with the south, the presence of dark faced and burnished pottery, with analogous characters to those of the Rouj phase 2c (table 6), does testify that the southern dark mineral tempered tradition continues to include this site.

Miyake's interpretation of the Rouj 2c correlation with the Amuq sequence is quite different to the one I am proposing here. He sees the 2c period as partly overlapping Amuq A (table 3), I believe partly because of some analogies with the Dhahab material⁴⁵. Dhahab was in fact dated by Braidwood to phase A, solely on the basis of its ceramic assemblage (the site has not stratigraphic subdivisions). Rocker impression is illustrated by Braidwood amongst the Tell Dhahab pottery and with it other complex impressed motives. It has been seen though that in the Rouj rocker impression and such motives are illustrated only from Rouj phase 2c. In Yumuktepe, the new Italian excavations have not evidenced this kind of decoration in the earliest levels and Judaidah only has it in phase B. I would take this to mean that Dhahab must have had a late occupation too and not that this pottery is to be dated to Amuq A. Furthermore, I have seen Dark Faced Unburnished Ware from Dhahab in the OIC collection, thus confirming a later phase at the site. What I am here proposing is the continuation of occupation of Dhahab after phase A, thus the material analogous to that of Rouj 2c found at the site would not pre-date the Rouj phase to Amuq A, but, the opposite way round, the later Dhahab occupation would be contemporary to Rouj 2c⁴⁶.

Miyake then correlates the rest of the Rouj 2c to Amuq B⁴⁷. Here too, as explained above, I propose a different interpretation: I believe that, the absence from the Amuq (but presence at Ras Shamra) of various elements characterising the Rouj phase (Husking Trays, White Ware, plastered ware) and vice versa the presence of characters absent in the Rouj (painted pottery, DFuW) (table 4) is a major obstacle in correlating these phases. Rouj 2c, as I have proposed above, would, in my view, correspond to a phase between Amuq A and B. The analysis of the later phases will better confirm this.

Lastly, Miyake sees a gap in the Rouj sequence between 2c and 2d, apparently because of the absence of Red Washed Impressed Ware⁴⁸. I wonder if simply this absence is sufficient to identify a missing phase in the sequence, especially since in the Amuq this particular category is found throughout phases A and B, thus not only in a moment contemporary to the end of Rouj 2c.

⁴⁵ Miyake 1997: 37, 59.

⁴⁶ Miyake 2003: note 7. He too admits that Dhahab might have had a late occupation, contemporary to Rouj 2c, because of its advanced impressed decorations, but for this reason he post-dates the end of the whole phase of Amuq A.

⁴⁷ Miyake 2001.

⁴⁸ Miyake 2003: 127.

Amuq B and the FMR

Judaidah B

Some of the innovations of Amuq B have already been anticipated above, as the beginning of painted ware and of the Unburnished Dark Ware, and the incised or red slipped decoration on the Coarse Ware. The second is in all similar to the DFBW, except for the surface, that is simply smoothed. The painted ceramics (Brittle Painted) are mineral tempered, medium to coarse in texture and of light creamy-buff or brown surface colours. The surface is generally burnished or smoothed before applying the painted motives, that are red-orange, purple-red or black (fig. 4).

It has been said that the changes in the DFBW somehow reminded those of the Rouj, Yumuktepe and Ras Shamra. In this phase, technological changes in the DFBW are in fact quite similar to those described for Rouj 2c, Yumuktepe XXVII-XXVI and Ras Shamra VA. New shapes, as very shallow, tray-like bowls⁴⁹, and bowls with an abrupt carination near the rim, appear. High straight collared jars become common too, even though the most frequent shape still remains the hemispherical bowl (fig. 5). Rare examples of shapes with a strainer at the opening are also seen. The most common surface colour is grey, but blacks and, on the contrary, lighter colours, are also present. Very interesting amongst the DFBW of phase B is also the evident presence of very fine sherds, 2-4mm thick, and mostly very well burnished or polished. These recall strongly the Very Fine DfbW of Yumuktepe (class 5) and I would thus suggest they be separated from the rest of the Judaidah DFBW. Another major distinction with the Amuq A DFBW is that of decoration: impressed decoration is still present and quite common, but at times it is made before burnishing the pot, thus the latter is given in bands, in order to spare the decorated parts (fig. 3). This creates a pleasant composition of shiny and non-shiny parts on the body of the vessel. A novelty of the decoration is also, at Judaidah, rocker impression, formed by moving an instrument (fork, shell or other) along the surface of the pot (fig. 3)⁵⁰. Pattern burnish, thus basically the creation of decorative techniques through the burnishing, is the other important character of phase B DFBW.

Judaidah FMR

The two Judaidah levels Jk2 23 and 22, covering Jk3 24 and forming the FMR, have had a very singular destiny in the literature. Even though interpreted by the Braidwoods as mixed and contaminated levels, due to the presence of a mixture of earlier material, together with Halaf and Ubaid ceramics, the exclusive character of some of their finds has determined the fact that these, instead of being rejected from the analyses, have acquired a position of their own in all chrono-stratigraphic reconstructions of the Amuq sequence. In these 2 levels, DFBW of phase A, B and also C type is found, together with the ceramic classes characterising the preceding and following levels. Be it a chance or

⁴⁹ Braidwood and Braidwood 1960: 9-11.

⁵⁰ Actually, one single sherd with rocker impressed decoration is illustrated from Judaidah phase A (Braidwood and Braidwood 1960: Fig. 28,12), but, apart from being the only example that I have noticed in going through all the sherds stored at the OIC, it is a Red Washed Impressed.

not, as I reordered and separated the sherds from levels 23 and 22 at the Oriental Institute in Chicago, I realised that all the later material, that of Halaf and Ubaid, was labelled as found in level 22. Apparently, according to what is held, today, at the OIC, only (or, mostly) level 22 has contaminated materials, whilst level 23 appears to have quite coherent ceramics.

All level 23 categories of pottery are present in phase B, even though some differences have been underlined by different authors. Technically DFBW is exactly that of phase B. Necked jars, bowls and low tray-like shapes are typical, but a couple of particular and new shapes are noticed too. This is the case of a tripod bowl, of Cream bowl profiles (on DFBW) and of strongly carinated shapes (fig. 6). All three are frequent, furthermore, in the Amuq C phase. Some of these shapes and more simple and common ones too, have, in this level, a quite complex and well-made pattern burnish (fig. 6). It is these elements that, as will be seen, have brought Miyake and the Japanese team to see Amuq FMR as correlating with Rouj 2d (table 3).

Another distinction, and probably a more valid one, between the Amuq B DFBW and some sherds found in level 23 is a strong increase in the use of a slip, not only black, but also red, under the burnish, and the general tendency to light colours⁵¹. Very thick vessels are also seen (table 6). These too are all characters that will be proper of the Amuq C DFBW⁵².

Basically thus, level Jk3 23 ceramics appear to have many Phase B characters, together with some elements that will be common in Phase C. Differently to what happened to level 22, which had a mixture of material from all later periods, this might indicate that level 23 was contaminated only by phase C. There is another possible interpretation, which would explain the presence of this limited Phase C material in a phase B context. Level 23 might in fact be seen as representing a slightly more advanced moment than phase B, but preceding C. Level 23 would thus be a good, non contaminated context, in which Halaf period elements start developing in some ceramics, as the result of the first contacts with Early Halaf culture from the east. It would certainly be of no surprise to scholars to imagine such a moment as one of gradual change, in which only a few things change at a time.

Whilst the fact that the sherds from level Jk3 23, kept at the OIC, have no clear evidence of contamination might simply be a chance, the considerations made above on the basis of the ceramics found in this level, do seem to introduce an interesting interpretation of the later pre-Halaf occupation at the site of Judaidah. It is no secret to anyone, as Braidwood had already realised, that between Amuq B and C phases there is clearly something missing. This level might start filling the gap. In proposing that level 23 is slightly later than phase B, I will, in this work, refer to it as to phase B2 (thus B1 will be the proper Amuq phase B). Such an explanation would furthermore finally justify the use that most scholars make of the FMR in constructing stratigraphic sequences for these regions.

⁵¹ Braidwood and Braidwood 1960: 106.

⁵² Braidwood and Braidwood 1960: 138.

Rouj 2d

Rouj 2d is the phase in which painted ceramics finally appear and develop in the Rouj basin. Together with these, Dark Faced Unburnished Ware (DFuW) comes to light. This is in all similar to the DFBW, except for the surface, that is simply smoothed, thus like at Judaidah and Yumuktepe. Coarse Ware has decreased compared to the preceding period, but it is still present. It is still, furthermore, also red slipped or incised (table 4). Judaidah phase B is characterised exactly by the same elements: Painted Ware, DFuW and incised or red slipped decoration on the Coarse Ware (table 4)⁵³.

In the Rouj the painted pottery is classified as Cream Ware, a pottery with mineral inclusions, generally fine in texture, a buff or cream surface colour and a fully oxidised core. Slipped or burnished, many examples found have a painted decoration, that in some cases reminds the motives of the Brittle painted in Judaidah (fig. 4). Not only thus both sites have painted decoration, but stylistic similarities are visible too. The Fine Painted Ware found in the Rouj in this period has instead elements that mostly recall the eastern painted ceramics (Halaf). These are not found in Amuq B1, but they are in B2.

White and plastered wares disappear in Rouj 2d, and, as already mentioned, these have never been found in the Amuq. Many are thus the elements that link Rouj 2d to Amuq B.

The comparison with the Rouj 2d DFBW is somewhat more complicated as this shows quite a variety of attributes. Many vessels are very similar to those of the Rouj 2c, with low tray-like shapes or sinuous profiles and distinction between the period 2c and 2d DFBW is at times problematic⁵⁴; as had been anticipated, in these two phases, DFBW has very similar characters. Carinated shapes seem to increase and necked jars are common, thus as noticed in the Amuq B (fig. 5). A particular shape, quite frequent in period 2d at Ain el-Kerkh is that of necked jars with a strainer at the opening; a few examples are also illustrated by Braidwood from Judaidah phase B (fig. 6)⁵⁵. What appear thus are small novelties in shapes that had not been present in the Rouj 2c.

From my personal observation I also had the impression that in the Rouj 2d light browns and red colours were more abundant than before. In Judaidah phase B the colours of the DFBW tend to be darker than in phase A, often black or grey, but light browns and red colours are present as well. Since the preceding phase in Judaidah is probably missing, we do not know whether colours are now darker or lighter, but the presence of some red and light brown sherds certainly finds good parallels in the Rouj 2d samples.

There are other elements characterising the Rouj 2d DFBW though, that still need to be considered. There are some thick vessels very similar to those that will be found in Amuq C and that have been mentioned from Judaidah phase B2 (FMR level 23), with a more careless burnish and a non homogeneous colour of the surface, changing from

⁵³ Actually, if we hypothesise the gap between phases A and B, we cannot exclude that DFuW, here as in Yumuktepe, was of earlier development. Furthermore, the fact that Coarse Ware, simple, incised and red slipped, is found in the Rouj from period 2c probably indicates that its production was not a novelty of Judaidah in phase B.

⁵⁴ Tsuneki *et al.* 2000: 7-9.

⁵⁵ Braidwood and Braidwood 1960: figs. 47,19 and 51,4.

brown to yellowish⁵⁶. Shapes, as was in the other sites, are again the most indicative feature of change: carinated profiles develop more strongly and typical Halaf Cream bowl shapes are visible amongst the DFBW (figs. 5-6). Jars with flaring necks and everted rims are common and shallow plate like bowls are still found (table 6). A new and distinct shape is that of pedestal bowls on a tripod base (fig. 6), as the ones noticed in Judaidah B2. Impressed decoration on the DFBW is by now absent, but pattern burnish has developed strongly, reaching very complex and composite designs, as diagonal and triangular intersecting lines, zigzags, criss-crosses and sequences of triangles (fig. 6).

Yumuktepe XXV-XXIV

At Yumuktepe, it is in level XXV that painted ceramics appear and evidence strong similarity in motives with those of the Amuq (fig. 4).

Data from the Yumuktepe levels in which Garstang and Caneva have found painted pottery together with silos and animal enclosures (XXV-XXIV) is not as abundant as that of the earlier levels, as the recent excavations have only reached this phase in a very small portion of the large central EBA trench⁵⁷. The characters of these first painted ceramics though are quite evident: light coloured, always mineral in temper, at times quite sandy and with a medium sized, but homogeneous, texture, whilst in other cases paste is finer and more compact, most are burnished as well as painted. The more sandy ones instead have no treatment and thus result into quite rough surfaces. Decoration, mostly in red, scarlet or brown, is geometric with various kinds of zigzags, horizontal and vertical bands or criss-crosses, as illustrated by Garstang in his 1953 report (fig. 4)⁵⁸. Similarities thus, as well as with the motives, are visible in the technological features of this category with that of the Amuq B.

Most interesting of this phase in Yumuktepe levels XXV-XXIV is the dark ware, and precisely the fact that next to this painted ware all the three categories of dark wares are still present, thus the classical DFbW (class 3), the unburnished one (class 4) and the Very Fine Burnished Ware (class 5); these appear to have the same characters as before. The only possible distinction with the earlier phases that has been noted is in the presence of some carinated bowl profiles and flat bases, unknown before, but common in the later levels XXIII-XX. Exactly the same situation is visible, as has been underlined above, from Rouj 2d, where differences with 2c were minimal.

Yumuktepe XXIII-XX

Painted ceramics strongly develop and increase in these later levels. Pastes of such vessels become very fine, surface colours are brown, black, red or buff. Painted decoration, mostly on necked jars, but also on bowls and other profiles, is generally of curving lines, zigzags and variously repeated horizontal or vertical lines⁵⁹. Some of these decorations remind Halaf motives. These characters are very similar to those of some

⁵⁶ Braidwood 1960: 138; Tsuneki *et al.* 1999: 8; personal observation.

⁵⁷ Caneva 1999: 7.

⁵⁸ Garstang 1953: 57, 61.

⁵⁹ Garstang 1953: figs. 52-58.

finer Rouj 2d and Amuq B2 painted ceramics, thus possibly confirming the correlations with this phase too.

This pottery takes over DFbW, which, apart from evidencing major technical and morphologic changes, decreases quite rapidly. Changes in the DFbW appear to be quite substantial in this period. First of all, the Very Fine DFbW (class 5) disappears. A new group of ceramics is found, technologically similar to that one and probably somehow derived from it, with surfaces of a homogeneous light grey colour and thin paste texture, but thick walls (about 8 mm). Surfaces are burnished but never polished and profiles are quite distinct from those seen until now. Flat bases are visible, and bowls with a flaring profile are seen, slightly resembling flowerpots.

The classical DFbW (class 3) too undergoes several changes in this period providing interesting observations for our inter-regional comparisons. First of all there is a strong increase in vessels of red and light colours. Vessel walls tend to become thicker and the carinated profiles and flat bases first noticed in levels XXV-XXIV become common. Ledge handles or lugs are at times visible on this pottery. A typical burnished ware of this period is a thick and deep bowl, with straight, but outward oriented walls and a round rim, and brown colour. The surface colour is not homogeneous though, but slightly lighter or brighter at the rim and shading to a yellowish brown or a reddish brown. This is exactly the same modification that some DFbW sherds have in the Rouj 2d and Amuq B2 period, and that will characterise Amuq C (Halaf period) dark wares too.

Yumuktepe levels XXIII-XX, immediately preceding Halaf, not only have painted motives on their ceramics, that recall Halaf traditions, but also shapes of DFbW vessels, as the “cream bowls”, carinated profiles and low tray-like pots, that indicate for this site too that a move towards the modifications of mature Halaf had started.

Ras Shamra – beginning of IVC

Having mentioned, earlier, Ras Shamra and having shown how similar its pottery production appears to be with that of the Amuq and Rouj regions, I believe it useful to continue this comparison even for this later phase. The moment following VA has been indicated by de Contenson as Halaf (table 1), fact which would mean that at Ras Shamra there was no phase corresponding to Rouj 2d and to the Amuq B phase. Miyake, in fact, in his correlation table (table 3) hypothesises a gap between VA and IVC, contemporary to Rouj 2d.

A careful observation of the stratigraphic subdivision of the site though identifies a level, 15 cm thick, right at the bottom of level IVC, that has painted pottery, very different to the one that will characterise the Halaf period, and that de Contenson correlates with the Yumuktepe painted ceramics of levels XXV-XXIV (“céramique orange à décor peint matt”)⁶⁰. The similarity with Yumuktepe and also with some Painted Brittle Ware from Judaidah is indeed striking (fig. 4). Next to this early painted pottery is

⁶⁰ De Contenson 1973: 21; 1992: 29. Schaeffer, in the initial stratigraphic subdivision of the site, had in fact dated the beginning of the Halaf period to phase IVB and left IVC to indicate this initial moment of local painted ceramics.

still the typical DFBW of period V, as happens in the Amuq, Rouj and Yumuktepe, and next to it are also some typical Amuq C DFBW sherds (the thicker and yellowish-brown ones).

This is the period, in Ras Shamra, with complex pattern burnished decorations on the DFBW and especially on the very fine one. In Ras Shamra though, the pattern burnish is often accompanied by impressed decoration, delimiting the burnished part. Rocker impression, though never specifically nominated by de Contenson, is actually seen on some illustrated sherds with pattern burnish, thus indicating that this form of impressed decoration was present too and probably that, like at the other analysed sites, it was a quite late character⁶¹. Last of all, the "céramique commune" is by far the most frequent category of those first 15 cm of period IVC and it is at times found with a red slip. Its affinity with the Coarse Ware of the Amuq and Rouj is amazing.

Relations between Sites in the Amuq B Period

I believe it is quite clear from the above that strong correlations in the ceramic assemblages of Amuq B1-2, Rouj 2d, Yumuktepe XXV-XX, and the earliest level of Ras Shamra IVC are proposed. The appearance of painted pottery at all sites and its typological and stylistic similarities was the first element utilised for proposing this, but the comparison between classes of ceramics and shapes has, in my opinion, further confirmed it. Rouj 2d and Amuq B1 in fact evidence exactly the same category of ceramics (painted ware, DFuW, incised or red slipped Coarse Ware - table 4). The fine painted pottery that is also visible in Rouj 2d is not present in Amuq B1, but it is in B2, thus suggesting that the Rouj 2d must probably include both Amuq phases. This could be further confirmed by the presence, in Amuq B1 of strainers (fig. 6) and footed bowls (fig. 5), and in Amuq B2 of the pedestal bowls with complex pattern burnish decoration (fig. 6); these, in the Rouj, are only found from phase 2d. The difficulty of separating Rouj 2c and 2d dark faced wares and the supposed absence of the level linking A and B in Judaidah do make these correlations difficult, as many elements that are present in 2c are also seen in Amuq B; the presence of the more specific elements mentioned above though attests, in my opinion, the later date of Amuq B compared to that of Rouj 2c. The presence of red or light coloured burnished vessels in Rouj 2d, furthermore, as is in Amuq B1 and 2, could be a confirmation of this.

An important element arguing for the contemporaneity of Amuq B2 and Rouj 2d is the presence of the thick burnished pottery, in all similar to the one described for Amuq phase C⁶². This is a burnished ware generally considered diagnostic of the Halaf period. Japanese scholars have generally taken the presence of ceramics similar to those of the Halaf period, in the Rouj 2d phase, as an indication of the gradualness of contacts with and of assimilation of Halaf characters in the local pottery. Rouj 2d is thus the period corresponding to the Early Halaf, to a moment in which this eastern culture has not yet expanded so strongly to the west, but its presence is beginning to be felt. It would seem

⁶¹ De Contenson 1973: 21.

⁶² Braidwood and Braidwood 1960: 138.

that Judaidah level 23 (phase B2) too, as it has so many elements that remind the later Halaf period, represents such a phase. Amuq C, Rouj 3, and Yumuktepe XIX-XVII represent the moment of mature Halaf, but Halaf influence is already felt before.

The Japanese scholars consider only the FMR of Judaidah as contemporary to Rouj 2d. This was, amongst others, because of the presence in the FMR of the pedestal bowl and complex pattern burnish, that they have retrieved in phase 2d. I believe to have demonstrated, by evidencing the major similarities of Amuq B1 and B2 in their ceramics and the analogies of the first with Rouj 2d, that B1 as well is probably to be considered as contemporary with Rouj 2d (its earliest moment?).

The analogies between the Yumuktepe XXV-XXIV dark burnished wares and that of Amuq B1 have been clearly evidenced in the continuation of the tradition of levels XXVII-XXVI. The changes noticed in the following levels XXIII-XX seem then to underline a modification similar to that noticed at Judaidah in the passage between B1 and B2. Some dark wares remain similar, but the fine ones disappear and many very thick vessels, as the later Amuq C ones are seen. This indicates a strong similarity between Yumuktepe XXIII-XX and Amuq B2. The increase in reddish or lighter colours amongst the burnished wares and the fine painted ceramics seem to confirm this too.

The analysis of the Ras Shamra sequence has brought to separate the lowest 15cm of deposit in the IVC phase and its comparison with the material from the other sites has clearly evidenced the correlation between these earliest levels and Rouj 2d, Amuq B (1 and 2) and Yumuktepe XXV-XX (table 5). Testifying this were: 1- the painted ceramics; 2- the typical DfbW of Yumuktepe XXV-XXIV; 3- the thicker burnished vessels typical of Amuq C, that have been found in Yumuktepe XXIII-XX, Amuq B2 and Rouj 2d; 4- the complex pattern burnish; 5- the Coarse Ware with red slip. Even though this phase at Ras Shamra would need to be more thoroughly investigated, I believe we can quite confidently hypothesise this correlation.

In conclusion thus, these observations have led to imagine a quite long Rouj 2d period, contemporary to the Amuq B (B1) and FMR (B2) developments, to Yumuktepe levels XXV-XXIV and XXIII-XX, and to these first 15cm of deposit of period IVC in Ras Shamra.

Absolute Chronology

The correlations that have been proposed between Yumuktepe, Judaidah, The Rouj and Ras Shamra, on the basis of their ceramic production, have unfortunately no confirmation yet on other grounds. Architectural remains are minimal and provide no good comparative material. The only possible similarity is that between three multi-roomed structures of Ain el-Kerkh and Yumuktepe. The first is structure 72 from a phase 2c level at Ain el-Kerkh and the other two are from Yumuktepe levels XXVII and XXVI⁶³. The plan of these buildings, although not exactly the same, appears to follow similar trends, with a larger room, surrounded by smaller areas. At Ain el-Kerkh this structure has been interpreted as a storage building, whilst the Yumuktepe buildings have

⁶³ Tsuneki *et al.* 1998: 6 ; Caneva 2001: 27; Garstang 1953: 28.

no testimony in this direction. Interesting is the fact that the levels these structures belong to (Rouj 2c – Yumuktepe XXVII-XXVI) have been hypothesised, on the basis of the ceramics, as being contemporary. Unfortunately, no other data on settlement organisation and architecture can be at the moment used in the comparison of these different regions.

Absolute dates would be, obviously, a very good source for the verification of the proposed correlations, but in this case too, data is still insufficient. No dates are available from the Amuq and two are those relative to the phases of interest here from Ras Shamra. Ain el-Kerkh and Yumuktepe are in a slightly better situation, even though the first, with three dates for the 2c period and 2 for the 2d, is still not totally reliable (table 7). Yumuktepe has 14 dates from the phases that have been considered in this work, not all coherent, but it does start setting some points for the construction of an absolute chronology for these Early Ceramic Neolithic layers.

For Yumuktepe, the available ^{14}C samples would seem to date the earliest phase XXXIII-XXX to 7000-6500 cal. BC (the 2 sigma calibration results are considered), but the dates are only two thus it should be probably taken as a provisory date (fig. 7). The two dates from level XXIX match between about 6600 and 6400 cal. BC and those from level XXVIII between about 6300 and 6200 cal. BC. I would thus hypothesise a date for the second phase of development identified, that corresponding to Yumuktepe XXIX-XXVIII, at 6600-6200 cal. BC. For the later XXVII-XXVI phase, the 4 available dates are quite coherent and indicate 6200-6000 cal. BC, but possibly even later (5800 BC?). Finally, dates for the last phase identified are coherent with each other, except for sample Rome-1010, which is apparently younger, and date to 6000-5700 cal. BC. It is probable that this phase actually continued for a little longer, not only because of what testified by sample Rome-1010, but because amongst the samples collected none come from the latest contexts of the phase.

The two Ras Shamra dates fit perfectly in this chronological grid, as phase VB, that according to the ceramics should correspond to Yumuktepe layers XXIX-XXVIII, dates between 6749 and 6265 cal. BC, within the interval given by the Yumuktepe dates. The second sample too, from phase VA (ceramic wise, correlated to Yumuktepe XXVII-XXVI), coincides with the dates from the Cilician site, 6223-5844 BC being the 2 sigma calibration interval.

The Rouj does not, unfortunately, seem to follow these same chronological intervals, but evidences apparently earlier dates, compared to the Yumuktepe and Ras Shamra ones, for all phases with ^{14}C samples. Period 2c, that this work has indicated as correlated with Yumuktepe XXVII-XXVI and Ras Shamra VA, has two early dates from 6600 to 6400 cal. BC and one between 6400 and 6100 cal. BC. Only the latter would near itself to the dates seen above. The same can be said for the Rouj 2d dates, one sample of which does fall within the range given by the Yumuktepe samples for this period (5978-5719 cal. BC), but the other is decidedly earlier. Furthermore, the youngest of these dates is from the latest level of the 2d period at Ain el-Kerkh, whilst none of the Yumuktepe dates come from the latest level of that phase; thus this too is probably earlier than what the Yumuktepe one would be (fig. 7).

The interpretation of this discrepancy between the radiocarbon data and the correlations between the ceramic production of these sites is problematic. In fact, even

admitting that the ceramic tradition that these regions share during these phases of the Neolithic were born and derived from the Syrian regions, and might thus have reached Yumuktepe a little later, once the regions were in contact, innovations would not take such a long time to move from one place to another. Admitting that vessels and models moved from the Amuq to Cilicia, or vice versa, I doubt that the short time this took would be detected by the radiocarbon samples.

It might be hypothesised that the Ain el-Kerkh samples refer to wood that had been re-utilised from earlier periods, but again, it is difficult to imagine that this happened for all samples and furthermore, sample NUT A2-2104 is a carbonised grain, thus decidedly of the same age as the context in which it was found⁶⁴.

We are thus left with this evident difference between the Rouj dates and those of Yumuktepe and Ras Shamra, that I believe can only be understood with a wider sampling of radiocarbon dates from the Rouj and maybe one day dates from the Amuq. As this region is in between the Rouj and Cilicia, dates from here might prove very interesting in regards to the origins and distribution of the ceramic categories that, has been seen, characterise all three of these western regions of the Neolithic Near East.

DARK FACED BURNISHED WARE – SOME OBSERVATIONS CONCERNING ITS DEFINITION

Braidwood has never distinguished, within DFBW, distinct categories and yet, in this work, evidence is given of the enormous variety of pastes, techniques, colours and shapes of this category. Probably he allowed such a variability within his categories because his interest was that of identifying “families” of ceramics, intended as the product of a particular tradition of craftsmanship, thus something that would certainly comprehend a diversity of solutions⁶⁵; nowadays classifications are generally more strict and try to pin down, within classes, varieties and variations in the production, with the hope of detecting, at times, apart from cultural, organisational and technical differences, right down to individual craftsmanship.

This somewhat too general classification is in part cause of the difficulties scholars have had and accumulated, through the years, in the recognition of DFBW. The simple presence of a more or less dark coloured and burnished pottery is in fact often considered as a good enough similarity for the identification of DFBW, at far away sites, along the Euphrates or even further, in the Syrian Jazira.

A result of the new research demands is a more detailed classification of the pottery, and this work has in fact tried to evidence, within the large DFBW group, distinctions that could bring to refine the categories. Reordering phase A material, I have proposed that the DFBW should be separated into two groups, which correspond to those identified by Matson (“*actinolite paste*” and “*calcite in red clay*”) in his archaeometric analysis. Morphological and technical characters of these two groups are well distinct and had apparently been noted by Braidwood too. The presence of ceramics similar to both

⁶⁴ Tsuneki *et al.* 2000 : 28.

⁶⁵ Braidwood and Braidwood 1960: 29.

groups in Yumuktepe XXXIII-XXX and in the Rouj furthermore, might confirm the validity of this classification.

An analogous situation of internal distinction within the Braidwood DFBW was evidenced in Yumuktepe levels XXVII-XXIV: the dark faced pottery classified there has been divided into 3 groups, a DFbW, a DFuW and a Very Fine DFbW. The second effectively corresponds to Braidwood's class of Dark Faced Unburnished Ware, whilst the other two, have not been distinguished by Braidwood. My personal observations on the Judaidah material at the OIC have brought to distinguish these two classes amongst the phase B ceramics, thus evidencing that there too there was more than one group of DFBW. Comments of the Japanese scholars on the Rouj material, furthermore, might indicate a similar situation in that region during period 2c⁶⁶. Ras Shamra too, finally, has evidence of a very fine DFBW in phase VA⁶⁷.

DFBW, thus, is in fact created by at least two smaller classes of ceramics, probably with a distinct function and role, as demonstrates the difference in shape and size between the very fine and polished examples (Yumuktepe class 5) and the thicker and coarser ones (Yumuktepe class 3). Changes in time of these distinct classes are also evident and have been summarised in table 6. Furthermore, not all classes are present in the different phases of development, fact this that demonstrates how not only the technology of DFBW was changing in time, but its function too.

What characterises all groups of this pottery is indeed the dark colour, as Braidwood defined it. The presence of a burnished surface is the other discriminating feature that identifies a sherd as part of the large DFBW family. The Dark Faced Unburnished Ware, though, that the US scholar kept separate, is very similar to such sherds. Paste, wall thickness, vessel shapes and dimensions, colour of the surface, are all identical in the unburnished and in the burnished samples.

Whilst in strict classifications, as are done today, I would propose that these three classes (DFbW, DFuW and Very Fine DFbW) be kept well separate, as their technological, morphological and stylistic characters are quite different, were we to search "traditions" of pottery making, intended in a more broader sense, as I believe Braidwood meant, I would unify the three together. I believe, in fact, that the unburnished ware (DFuW) too derives from the same idea or tradition, that produces mineral (as opposed to vegetal) tempered and dark coloured vessels⁶⁸. The dark colour is intentionally obtained⁶⁹, thus evidently it is one of the most important features of this particular tradition of material culture. Furthermore, the function of the three classes of dark vessels at Yumuktepe, thus also including the unburnished one, appears to be specifically delimited to daily use: large and small eating and serving bowls and cooking ware. This is opposed, instead, to the light coloured, storage or conservation vessels. For these reasons

⁶⁶ Tsuneki *et al.* 1998: 14.

⁶⁷ Courtois 1992: 216.

⁶⁸ Balossi 2002.

⁶⁹ This is sure at least for Yumuktepe and Judaidah, where many cores of these sherds are red or light coloured, even though the surface is dark. This indicates that, during the firing, an incipient oxidation had started turning the sherds into a light colour, but a subsequent reducing atmosphere had darkened the surfaces. Such an atmosphere was evidently intentionally created. Balossi in print.

I believe the unburnished class should be considered part of the family too⁷⁰. I would thus probably slightly change Braidwood's terminology and talk about a DFW (Dark Faced Ware) family, composed at least by the three classes of DFbW, Very Fine DFbW and DFuW. Of these, the most long-lived is probably the DFbW, the evolution and changes of which can be followed for many phases (table 6). From this one, probably, in different moments and because of diverse needs, the finer and the coarser wares have developed.

Finally, there is another category of pottery in the Amuq, that in my opinion strongly recalls the Very Fine DFbW: the Red Washed Impressed Ware. This is a very particular category of pottery, having very similar temper, surface treatment, shape and decoration to that of DFBW. Basically, Red Washed Impressed Ware is a class of sherds formed by DFBW that has been decorated with bands of red wash and fingernail or pointed impressions. This is furthermore apparently only done to bowls. Shape, dimension and decoration of this class are extremely "standardised". The specificity of this group would appear to contrast with the apparent diversity and heterogeneity of the DFBW category. For this reason I would tend to see the Red Washed Impressed Ware rather as a "stylistic particularity" of Judaidah and its region, as a group of DFBW vessels with a specific role and/or function. These small decorated bowls might have been used in special feasts or communal occasions in which eating and/or drinking were involved. Their relatively small number would make this interpretation possible (5-10% of the assemblage). In this sense, their analogies with Yumuktepe class 5 (very fine DFbW) are many. That too, in fact, was a very particular class, decidedly of DFbW tradition, particularly nice and well made, and certainly used in special occasions linked with food consumption (those too were small plates, bowls and goblets). I would thus tend to see the Red Washed Impressed Ware as the Amuq (and Rouj?) counterpart of the Very Fine DFbW that develops in Yumuktepe with levels XXVII-XXVI and is still produced in levels XXV-XXIV.

The DFW Horizon

The analysis of the DFW and its distribution in some of the main sites that evidence its presence has brought to a slightly divergent and probably more complex view to that of the traditional "DFBW Horizon".

The Rouj basin, Hatay (Amuq) and Ras Shamra have demonstrated analogies in the totality of their ceramic assemblage and can thus indeed be considered as belonging to one same cultural system. Yumuktepe is probably the site that most distinguishes itself from the others. In its earliest levels it evidences a possible Kerkh-like Ware and a dark burnished ware, in all similar to that of the Syrian sites, but by levels XXVII-XXVI, things change. A pinkish, mineral tempered pottery appears and rapidly overtakes in quantity the DFW. This is totally distinct from the chaff tempered, Coarse Ware of the Amuq, Rouj and Ras Shamra. This latter never appears at Yumuktepe. The Dark Faced Unburnished Ware is present though, DFbW continues to develop through all the pre-

⁷⁰ The Japanese archaeologists too consider the DFBW and the unburnished Ware as originating from a same "model". Tsuneki *et al.* 1999: 8.

Halaf phases, and painted ceramics comparable to those of the Amuq appear in the second part of the period, thus indicating that, even though this site had probably taken a distance from those to its south, relations between them probably continued. I believe that Cilicia belonged to a distinct, but strongly related, cultural system. The similarities in particular classes of pottery production might be due to a complex network of relations between these two systems, that were probably based on kinship ties and relations.

To the Syrian cultural system also participated other contemporary excavated sites that have not been analysed here, but that evidence similar ceramic production; this is certainly the case of the Qoueiq, that probably finds itself at a frontier area facing the Middle Euphrates communities, and other Syrian settlements as Janoudiyeh, Qal'at el Mudiq and Hama⁷¹. Data from these is unfortunately very little, but their nearness with the Amuq, Rouj and with Ras Shamra, together with the little available information do seem to agree with this hypothesis. To the Cilician system instead is to be included Gözlükule-Tarsus⁷².

Interpreting the kind of relations between Yumuktepe, and most probably Tarsus, and the Syrian communities is rather difficult. Ceramics evidence separate developments and probably distinct cultures, but DFW shows constant contacts and exchange, which also tells us that DFW must have played a particular role within these relations. This pottery might have been, in fact, the instrument with which social relations were ruled and functioned⁷³.

Conclusions

This comparative analysis of the pottery assemblages from the Syro-Cilician region, defined by Braidwood as belonging to a single cultural development during the first Ceramic Neolithic period, has provided some valuable instruments for reconsidering the sequences of occupation of these sites and community relations.

A thorough classification of the dark ware from the site of Yumuktepe and its comparison with the dark ceramics of the Syrian sites has provided interesting considerations on this important ceramic category, which was considered the diagnostic element of the Syro-Cilician culture. Within the DFBW at least two different classes of ceramics have been distinguished: one with a very fine texture and a medium textured one. The very fine textured class is limited to certain levels of occupation only (Yumuktepe XXVII-XXV), whilst the developments of the other can be followed in time. This division has brought to propose a two level classification, in which the Dark Faced Unburnished Ware too was included. In fact, the similarities in colour, shape, vessel size and thickness have been considered major elements in the classification of this large family of ceramics. More than the surface treatment, it is the deliberateness of the dark colour, accompanied then by all the other single attributes, that defines, in my opinion, the large family of wares, which could thus be called DFW. A broad DFW family

⁷¹ De Contenson and Van Liere 1964; Collon *et al.* 1975; Thuesen and Riis 1988; Mellaart 1981.

⁷² Mellink 1956.

⁷³ Balossi 2002.

composed by the three classes of ceramics (DFbW, Very Fine DFbW, DFuW) was proposed.

Absolute chronology unfortunately still doesn't provide enough data for a confirmation of these "typological" observations. The rarity of radiocarbon samples makes the available dates still preliminary. Whilst Yumuktepe, with a relatively higher number of samples, might set a good chronological grid (7000-5700 cal BC, for the pre-Halaf phases considered in this work), in which could be positioned all the other sites, the absence of dates from the Amuq does not permit any real correlation. The 5 samples present from Ain el-Kerkh, in the Rouj, furthermore, apparently do not match with the Yumuktepe ones, thus still leaving an interrogation mark on the proposed stratigraphic correlations. The two available radiocarbon dates from Ras Shamra, instead, would well correspond to those of the Cilician site, but again the paucity of samples would need further confirmation.

As to what regards the definition of the DFW Horizon, an important observation has been that of a distinct participation of the Cilician site of Yumuktepe within these regional developments. Whilst the first levels of occupation, in fact, might demonstrate a ceramic assemblage strongly analogous to that of the Amuq and Rouj regions, very early the more northern site develops autonomous categories, that have no link at all with those of the Syrian communities (Pinkish Ware, classes 1 and 2). No matter this increasing distance between the Anatolian and Syrian regions, communication between the villages must have continued quite permanently and intensively, though, as the production of the Dark Faced ceramics appears to follow the same developments in time. The Rouj, Amuq and Coastal regions of Syria, instead, appear to actually belong to a same cultural region, as they share their entire ceramic assemblages.

Having identified the correlations in ceramic productions of the Syrian communities and the continuity of relations they had with Cilicia, this work has compared the analogies in the DFWs and the appearance and disappearance of other particular ceramic categories in the Rouj, Amuq, Ras Shamra and Yumuktepe, fact this which has permitted to revisit most stratigraphic correlations proposed in the past by various scholars. This article has in fact mainly concentrated on this aspect, on which a couple of interesting observations have been made.

An important point regarding the temporal correlations between these communities that this work has discussed, is that of the very first phases of ceramic development. The investigations in the Rouj basin had in fact, until now, suggested that the earliest ceramic occupation was solely in this region, as Kerkh Ware did not seem to be present at any other site. Technological and morphological comparisons between ceramics from the lowest levels in Judaidah A, the Yumuktepe deep sounding SA and Rouj 2a have indicated though, the possible analogy between Kerkh Ware and pottery from the other two sites as well (table 6). Were this to be confirmed by further investigations, it would mean that occupation at the sites of Ain el-Kerkh and el-Kerkh 2 in the Rouj, at Yumuktepe and at Judaidah probably begun at more or less the same time (table 5).

Probably most rich in implications amongst all hypotheses made by this paper is the proposed gap in the Judaidah sequence between phase A and B, motivated by the

absence in the Amuq site of White Ware, Plastered vessels and Husking Trays, all elements characterising a same phase both in the Rouj (period 2c) and at the coastal site of Ras Shamra (phase VA) (table 4). Husking trays are of sure Hassuna influence, thus coming from the east, and their presence at Ras Shamra would be difficult to explain were they not also to be found in the Amuq. White Ware and plastered sherds, on the contrary, are elements commonly considered as characteristic of coastal communities as those of Byblos and Tell Sukas. In this case, thus, their presence in the Rouj basin but absence from the region in between (the Amuq) would be quite astonishing. Correlations between DFWs and painted ceramics have confirmed in my opinion that a phase is missing from the Judaidah sequence.

Interesting is, finally, the appreciation that a re-evaluation of the FMR of Judaidah has permitted of the phase indicating the passage from the pre-Halaf to the Halaf levels of occupation. Rouj 2d levels very well demonstrate how Halaf influence gradually starts reaching the more western regions, without initially totally upsetting and changing local material culture and production. Halaf influenced ceramics are in fact visible in the latest period 2 levels, under the form, for example, of DFbWs with typical Halaf profiles. A non-local shape is thus adapted to a local technology, in a period corresponding to Early Halaf, thus when Halaf culture still hadn't expanded so significantly as will be later. It is evident from this that communities were always in contact throughout the Near East in this period, even when strong movements of economic or political expansion did not take place. A consequence of these relations evidently was influence in material culture production. The analysis of the earliest level of the FMR (Jk3 23) has indicated very well this initial Halaf influence in the pottery. This is important both because it starts filling the stratigraphic gap already noticed by Braidwood in the Amuq sequence between the end of phase B and the Halaf period phase C, and because it gives evidence in the Amuq too of the gradualness of this arrival.

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Yumuk.	Amuq	Ras Shamra
XIX XX XXI XXII XXIII XXIV	C	IVC
XXV XXVI XXVII	B	VA
XXVIII XXIX XXX XXXI XXXII XXXIII	A	VB

Table 1

Yumuk.	Amuq
XIX - GAP?	C
XX - XXII	B
XXIII - XXV	A
XXVI - XXXIII	

Table 2

Amuq	Rouj	Ras Shamra
D	3	IVB
C		IVC
FMR	2d	GAP
B	hiatus?	VAII
	2c	
A	2b	VAI VB
	2a	

Table 3

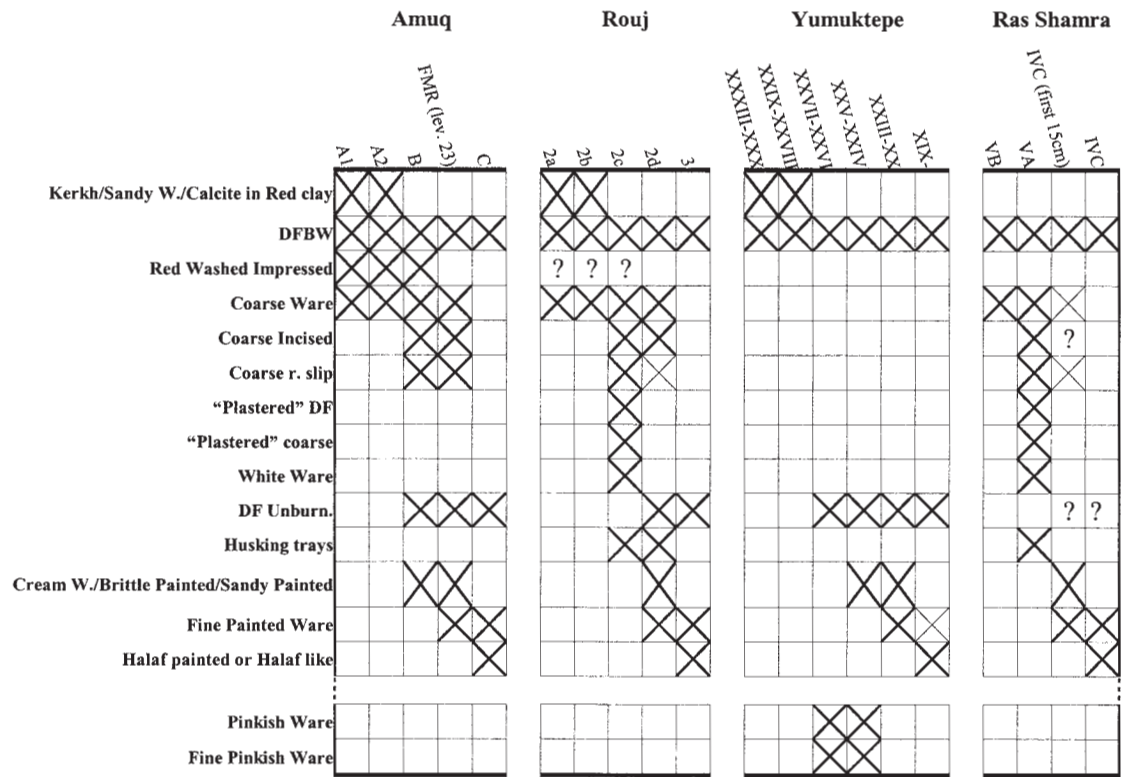


Table 4.

Yumuk.	Amuq	Rouj	Ras Shamra	
XIX	C	3	IVC	B
XX				C
XXI	?			
XXII		2d		C
XXIII	B2			a
XXIV			IVC (lowest 15 cm)	l
XXV	B1			i
XXVI	GAP	2c	VA	5500
XXVII				5600
XXVIII				5900
XXIX	A2	2b	VB	6000
XXX				6200
XXXI	A1	2a		6500
XXXII				
XXXIII			?	7000

Table 5.

class	paste, texture and thickness of			surface	shape	decoration	Yumk.	Rouj	Amuq	Ras
	walls	surface colour	treatment							Sh.
Kerkh Ware	mineral, sandy temper, medium texture.	Cream, buff or brown colour.	Burnished or smoothed.		Mostly hemispherical bowls.	no decoration.	XXXIII-XXX	2a	A1	?
DFbW	mineral temper, medium and fine texture. Mostly thin walled (around 6mm) vessels.	Mostly deep brown colours, grey and scarlet-brown.	Burnished.		Most common shapes are hemispherical bowls, but in the Amuq and Rouj necked jars also appear. Rims are mostly simple. Some lugs.	Decoration, on a small percentage of vessels, is impressed. These are mainly obtained with fingernails and various pointed instruments. motifs are generally repeated on the whole body of the vessel.	XXIX-XXVIII	2b	A2	VB
time										
DFbW	mineral temper, medium texture. Thickness of vessel walls varies, but doesn't generally reach 10mm.	Dark colours increase at the disadvantage of light, cream or red tones.	Burnish is generally of a better quality.		Shapes are, in the Amuq and Rouj, mostly necked jars. Some flaring necks and carinated profiles are observed. In Mersin, bowls and hole-mouth jars	Amongst the impressed decoration, rocker impressions appear. Some applied decorations. Also some initial and simple pattern burnish.	XXVII-XXIV	2c	B1	VA
Fine DFbW	mineral temper, very fine paste and texture. Vessel walls are 2-4mm thick.	Colours are dark, even though rare red slipped vessels are seen.	Burnish is very good and often surfaces are polished.		Shapes are small bowls, plates or tray-like, low bowls.	rarely, impressed decoration.	XXVII-XXIV	2c	B1	VA
DFuW	mineral temper, medium and coarse texture.	Colours are mostly grey or dull browns.	Surface is only smoothed, not burnished.		Shapes are mostly hole-mouth jars.	generally no decoration.	XXVII-XXIV	2d	B1	?
DFbW	mineral temper, medium and fine texture. Some vessels are like those of the previous phase, but others tend to be thicker in wall dimensions.	Colours are browns, greys, but many reds and buffs, or yellowish tones appear.	Burnish is not always of good quality. Sometimes slipped.		Shapes, apart from the usual ones, see the increase in sinuous profiles, carinated bowls and jars, flaring necks. Cream bowl shapes are found.	pattern burnish evidences complex designs and is at times combined with impression (at Ras Shamra).	XXIII-XX	2d	B2 (Jk3 23)	IVC begin.
DFuW	mineral temper, medium and coarse texture.	Colours are mostly grey or dull browns.	Surface is only smoothed, not burnished.		Shapes are mostly hole-mouth jars.	generally no decoration.	XXIII-XX	2d	B2 (Jk3 23)	?

Table 6.

Site and Phase	context	Sample	BP date		Stand.	Calib BC - 1 sigma		Calib BC - 2 sigma	
			dev.	max		min	max	min	max
Yumuktepe XXXIII	WA 4a	Rome-467	7920	90	7045	6646	7075	6512	
Yumuktepe XXXII	SA 5	Rome-734	7790	80	6684	6484	7026	6457	
Yumuktepe XXIX	F2 3c (lens)	Rome-1344	7750	80	6647	6465	6749	6438	
Yumuktepe XXIX	F2 3c	Rome-1343	7640	80	6585	6425	6641	6241	
Ras Shamra VB	SC, 11,15m (=12,15m)	P-458	7686	112	6640	6435	6749	6265	
Yumuktepe XXVIII	F2 3b	Rome-1011	7545	75	6456	6268	6498	6230	
Yumuktepe XXVIII	A25 1b*	Rome-1226	7280	70	6222	6030	6326	5994	
Ain el-Kerkh 2c	E310, 6, str. 167	NUT A2-2024	7730	80	6643	6461	6693	6431	
Ain el-Kerkh 2c	E310, 6, str. 167	NUT A2-2023	7670	45	6503	6456	6592	6435	
Yumuktepe XXVII-XXVI	NA A36 2a	Rome-808	7380	80	6377	6094	6418	6032	
Ras Shamra VA	SC, 9m (= 10m)	P-457	7184	84	6159	5928	6223	5844	
Yumuktepe XXVII-XXVI	EBA1 A20	Rome-807	7160	80	6156	5923	6214	5842	
Yumuktepe XXVII-XXVI	EBA6 1m	Rome-957	7100	70	6020	5891	6157	5807	
Yumuktepe XXVII-XXVI	EBA6 A10	Rome-956	7090	70	6016	5844	6156	5805	
Ain el-Kerkh 2c	E270-290, 4	NUT A2-2089	7420	45	6379	6226	6399	6109	
Ain el-Kerkh 2d	E271,3, str. 240	NUT A2-2104	7230	40	6159	6025	6210	6007	
Yumuktepe XXV	EBA4 A41 1a	Rome-806	7030	90	5992	5800	6063	5721	
Yumuktepe XXV	NA-A' 1b	Rome-809	6980	80	5979	5739	6009	5715	
Yumuktepe XXIV	F2 A71 2p	Rome-1010	6675	70	5658	5531	5720	5479	
Yumuktepe XXIII-XXII	GF6 A46	Rome-1345	7010	75	5986	5797	6017	5723	
Ain el-Kerkh 2d	E271,2b, str. 211	NUT A2-2105	6950	50	5873	5737	5978	5719	

Table 7.

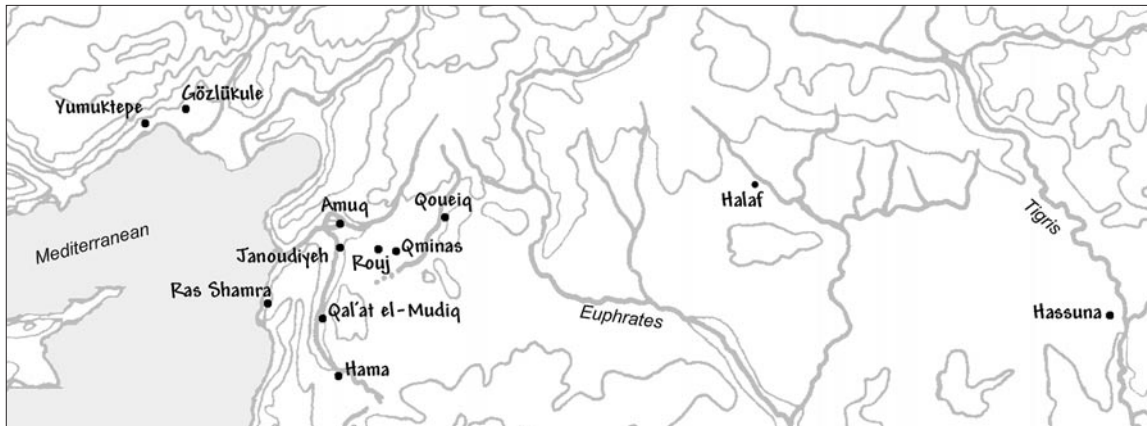
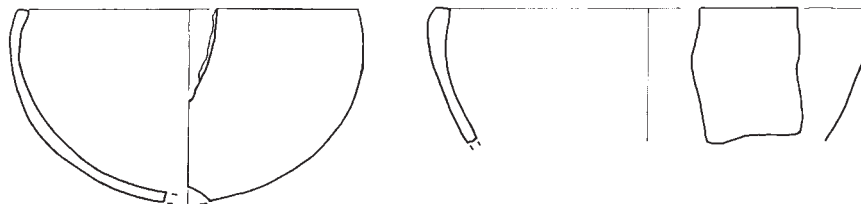
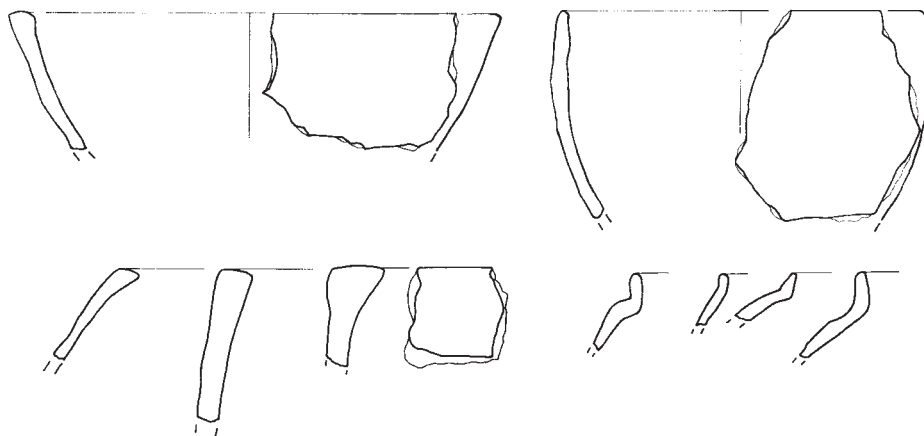


Fig. 1.

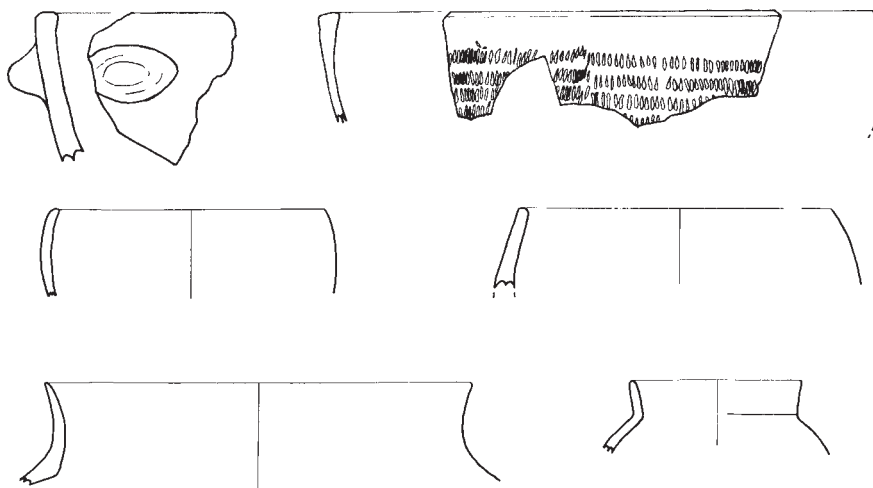
Yumuktepe XXX-XXVIII



Amuq A



Rouj 2b



0 5 10 cm scale 1:3

Fig. 2.

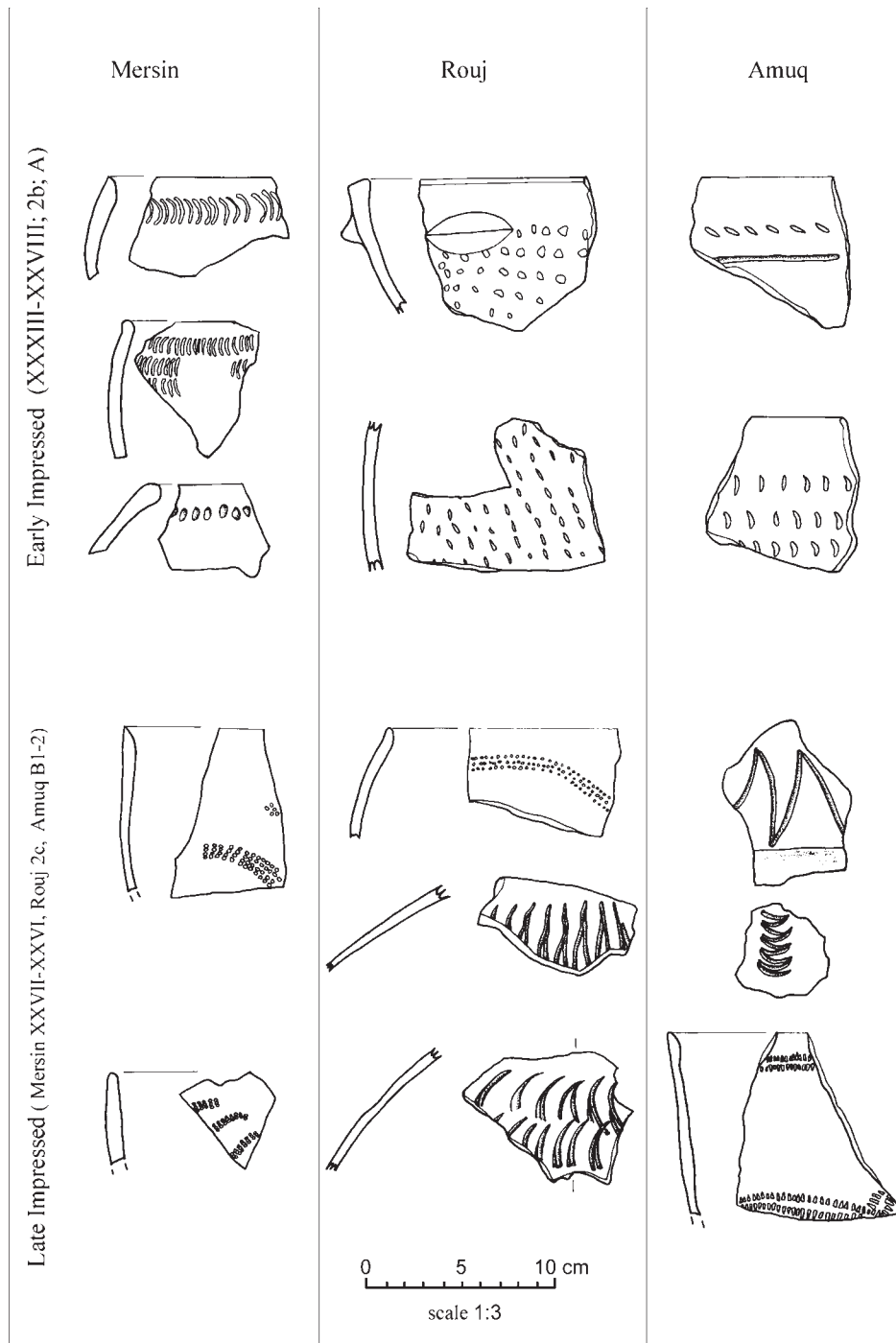
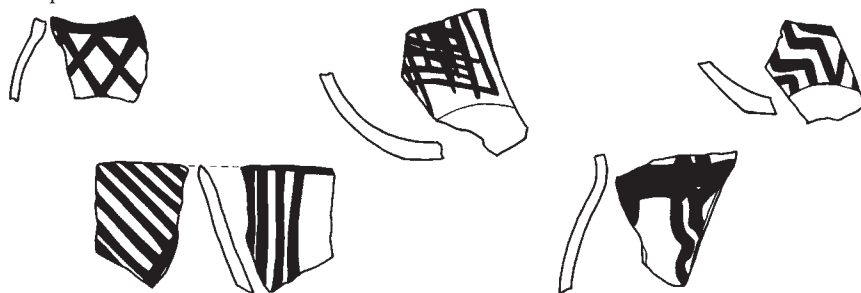


Fig. 3.

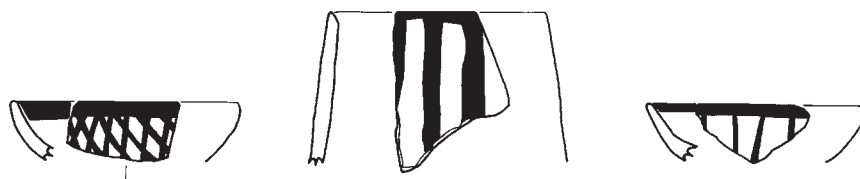
Yumuktepe XXV-XXII



Amuq B1-2



Rouj 2d



Ras Shamra VA



0 5 10 cm scale 1:3

Fig. 4.

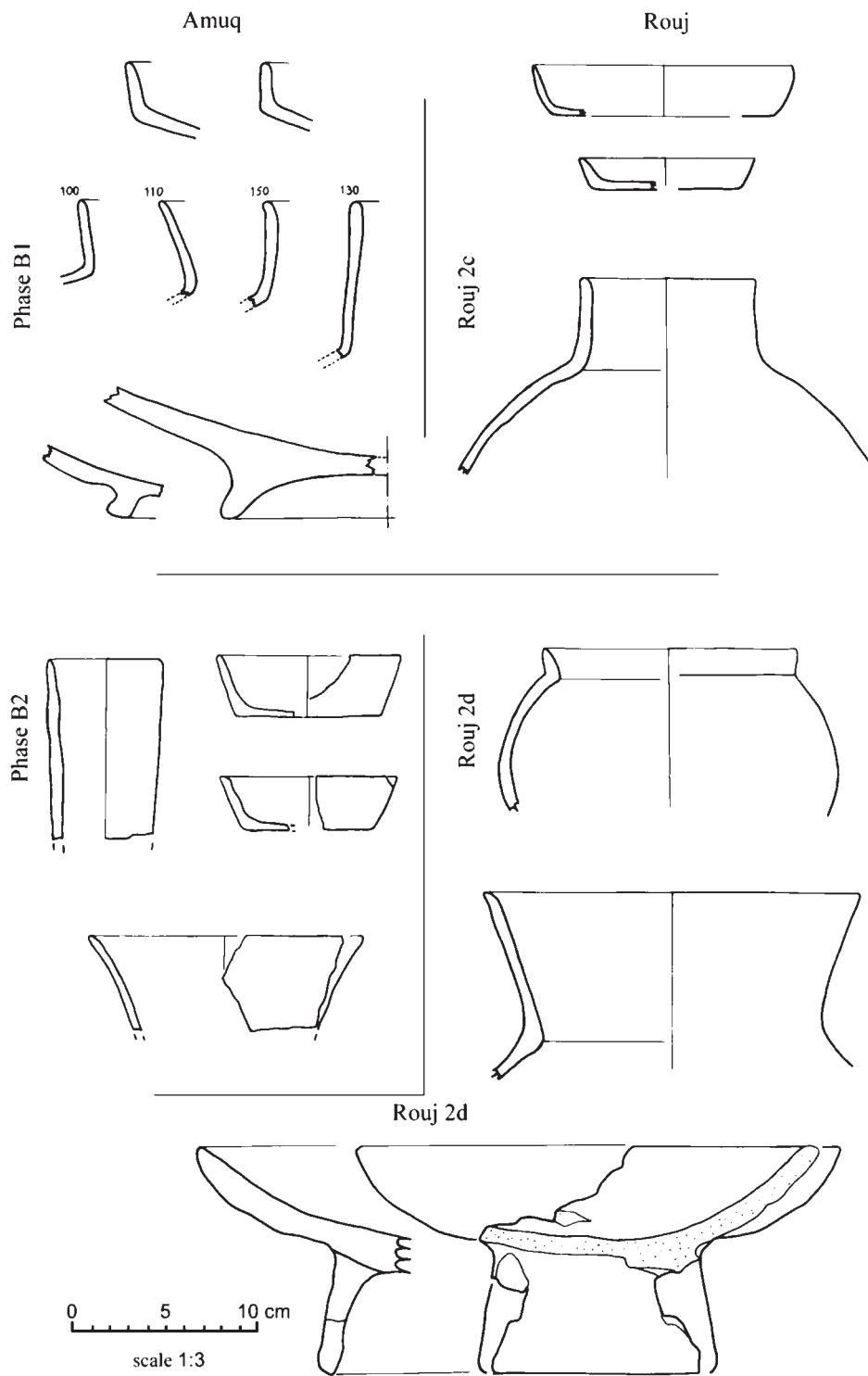


Fig. 5.

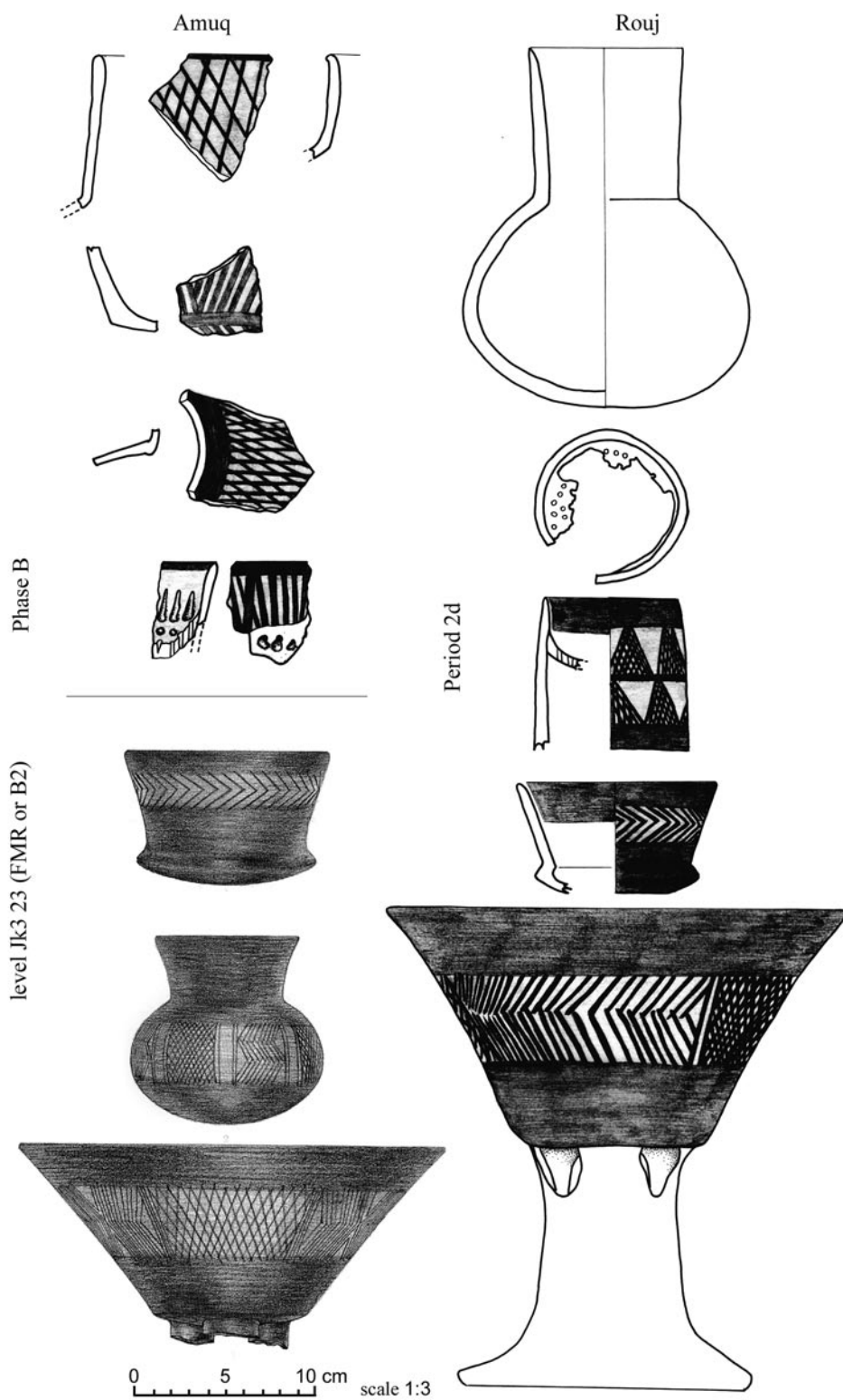


Fig. 6.

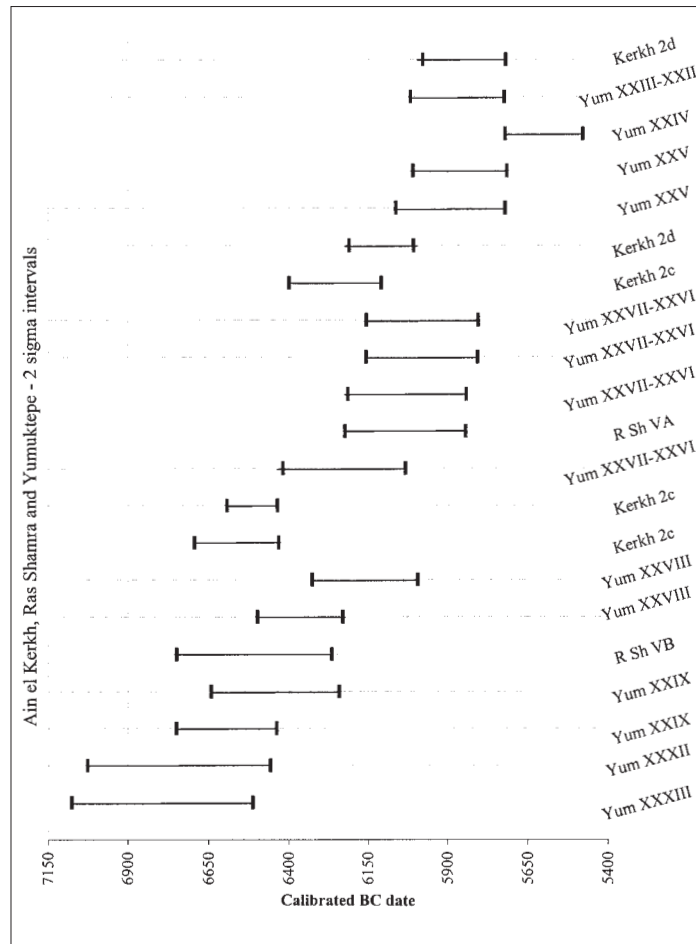


Fig. 7.

ANDIRONS AND THEIR ROLE IN EARLY TRANSCAUCASIAN CULTURE

*Anna Smogorzewska*¹

Introduction

Andirons constitute one of the distinctive features of the Early Transcaucasian culture.² Along with handmade black and red burnished pottery, they are a determinant of the homogeneity of the area in which the Early Transcaucasian culture has been identified. The origins of this culture, dated to the 2nd half of the 4th millennium BC, can be sought in the Kura and Araxes basin, where the Early Transcaucasian culture probably developed from local traditions.³ In the Early Bronze Age elements connected with the Transcaucasian culture spread throughout a substantial area. Outside Georgia, Armenia, Azerbaijan, and North Caucasus (Dagestan, Chechnya, and Ingushetia), sites of the Early Transcaucasian culture are known from northeastern and central-eastern Anatolia, Syria, Palestine and northwestern Iran. Many problems, which are constantly under discussion, arose around the Early Transcaucasian culture. Northern provenience of the influences is not being questioned, nor is the connection between the Khirbet Kerak Ware found in Syro-Palestine and Transcaucasian and eastern Anatolian traditions. Nonetheless the presence of the components of the Early Transcaucasian culture outside its place of origin has been interpreted in various ways. Some archaeologists see the appearance of pottery and andirons of Transcaucasian origin in Syria and Palestine as a result of a migration wave from the north.⁴ According to Hood, it was 'an outpouring of barbarians from the North upon the more civilized peoples from the South.'⁵ Despite these early opinions, they were not violent and destructive invasions of barbarians, but rather peaceful migrations. The appearance of Khirbet Kerak Ware in Syria and Palestine is not accompanied by distinct traces of destruction in the archaeological material. Todd criticizes supporters of the migration theory for being too injudicious. He explains the

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² This culture is known also under other names: the Kura Araxes culture (Kuftin 1941) and the Outer Fertile Crescent culture (Kelly-Buccellati 1979); its Palestinian branch is called the Khirbet Kerak culture (Albright 1926). In similarity to the culture itself the andirons are also referred to by different names. In many works concerned with the Early Transcaucasian culture, terms that occur besides 'andirons' include 'pot-stands', 'fenders', 'movable hearths' and 'hearth stands'. The term 'andiron', as used in this work, refers to clay hearth stands.

³ Opinions differ with respect to the chronological horizons of this culture and its place of origin. An abundant literature deals with the Early Transcaucasian culture and its problems. On this subject see, i.a., Kuftin 1944; Hood 1951; Lamb 1954; Burney 1958; Amiran 1965; Hennessy 1967; Kushnareva and Chubinishvili 1970; Burney and Lang 1971; Todd 1973; Munchaev 1975; Kelly-Buccellati 1979; Sagona 1984; Miroschedji 1984; Marro 2000, Kiguradze 2000.

⁴ Hood 1951; Amiran 1952; Amiran 1965.

⁵ Hood 1951: 118.

presence of Khirbet Kerak Ware at Levantine sites as a result of cultural contacts and interchange of ideas.⁶ Both Hennessy and Miroschedji suggest that the appearance of Khirbet Kerak Ware in Palestine might have been the effect of activities of professional and wandering potters.⁷

Andirons served as hearth stands, used while preparing meals.⁸ In the Early Transcaucasian culture, where they appeared in great numbers and in surprisingly varied forms, they must have played an exceptionally essential role. Both the discovery of 'sacred hearths' with anthropomorphic elements at Pulur/Sakyol and ethnographic observations of pastoral and nomadic societies, in which the domestic hearth is an important element in cult, give grounds for the thesis that andirons, besides their everyday function, could have also played a role in some rituals.⁹

Types and Characteristics of Andirons in the Early Transcaucasian Culture

At sites of the Early Transcaucasian culture two main types of andirons can be observed: andirons with horn-like projections and horseshoe-shaped andirons. Andirons with horn-like projections are known from Transcaucasia (*inter alia* from Shresh Blur, Ararat, Dzhraovit, Mokhra Blur, Tignis, Khizanaant Gora, Zgudris Gverda, Kiultepe-Nakhichevan, and Baba Dervish) and from the northern Caucasus (Serzhen-Iurt, Lugovoe), where they constitute a popular group.¹⁰ The andirons with a flat and usually rectangular base and with two projections resembling horns modeled on one of the short sides imitated bull figurines, as indicated not only by the 'horns' but also by the depiction of a tail at the 'back' of the object (Fig. 1: 1, 2, 4). They were frequently equipped with a handle, usually placed in the centre of the upper surface, which was helpful in taking the andiron off the hearth. A related group is constituted by andirons with four horn-like projections and a handle on the upper surface (Serzhen-Iurt, Dzhraovit)¹¹ (Fig. 1: 3). Some of the horned andirons' prism-like bodies are pierced with horizontal, vertical or skewed holes, which may have been used to remove the stand from the fire (e.g. Lugovoe)¹² (Fig. 10: 3). The two-horned objects can be considered a simplified form of andirons shaped to look like schematic bull figurines. Those of the latter kind, apart from having two horn-like projections and a handle, are equipped with four legs and look like actual clay figurines of that period. They are known from Mokhra Blur, Shresh Blur and

⁶ Todd 1973: 181-206.

⁷ Hennessy 1967: 79; Miroschedji 2000: 264.

⁸ On the subject of andirons see e.g.: Hood 1951; Lamb 1954; Diamant and Rutter 1969; Miroschedji 1984; Amiran 1989; Takaoğlu 2000; Miroschedji 2000.

⁹ Ritual function of andirons had been suggested before by i.a. Amiran 1989 and Takaoğlu 2000.

¹⁰ Abibullaev 1982; Kikvidze 1972; Kuftin 1947; Munchaev 1961; Munchaev 1975; Khanzadian 1969; Esaian 1980. The abundance of andirons with horn-like projections in the Caucasian and Transcaucasian regions has been connected, by some scholars, with the bull cult (Munchaev 1975: 170, 364). They may also reflect the significant role of pastoralism and animal husbandry in the economy of this region. The key importance of these activities is also confirmed by the dominance of animal representations, mainly bulls and rams, in the Caucasian figural statuary. The gold and silver bull figurines discovered in the Maikopsky grave-mound are among the most outstanding (Munchaev 1975: 213, fig. 34).

¹¹ Munchaev 1975: 361-364, fig. 78: 7-10; Esaian 1980: fig. 14: 3.

¹² Munchaev 1961: fig. 42: 2; Munchaev 1975: 362, fig. 79: 9.

other sites in the Transcaucasian area¹³ (Fig. 1: 5-8). What is noticeable is the scarcity of andirons with horn-like projections outside Transcaucasia and the Caucasus (that is in eastern Anatolia and Syro-Palestine), at sites where remains of the Early Transcaucasian culture have been found. A small number of andirons with prism-like horizontally pierced bodies and very short, horn-like projections on their shorter sides are known from the Malatya-Elazığ region (e.g. Pulur/Sakyol, Han İbrahim Şah, and Arslantepe)¹⁴ (Fig. 10: 1).

A bigger and more varied group is constituted by the andirons in the form of a horseshoe. Most of them have handles, placed usually at the back, as well as internal knobs helpful in supporting the vessel over the fire. Just like the Early Transcaucasian vessels many andirons are characterized by a burnished surface. Some of the horseshoe-shaped andirons were decorated with anthropomorphic and zoomorphic representations covering the raised central part and endings. Andirons in the form of a horseshoe are known from sites throughout the region of the Early Transcaucasian culture.¹⁵ The horseshoe-shaped andirons that have been discovered in Georgia come from Khizanaant Gora, Ozni, Zgudris Gverda, and other sites.¹⁶ Andirons from Amiranis Gora in southern Georgia are distinct for their anthropomorphic decoration¹⁷ (Fig. 2: 1-3). The raised central part of one of the andirons depicts a human head, possibly crowned with horns. In Armenia, andirons and hearths with anthropomorphic representations are more frequent.¹⁸ They appear on several sites including Shengavit, Tignis, Garni, Mokhra Blur, Arich, Armavir, and Arevik (Fig. 2: 4-8; Fig. 3, Fig. 4). Schematically rendered faces, usually represented simply by eyes and nose, which are seldom accompanied by ears and mouth, were located mainly on the raised central part, or on the projecting endings of the andirons. An interesting example comes from Shengavit¹⁹ (Fig. 3: 7); it is horseshoe-shaped and stands on three legs, the two front ones being decorated in the upper parts with plastic representations of rams' heads (andirons of this type are also known from the Shirak plain – *inter alia* from Arich and Amasiya).²⁰ Two other andirons from Shengavit bear a schematic anthropomorphic decoration²¹ (Fig. 3: 8). Another andiron fragment from Shengavit, which bears a representation of a human face on its raised central part,

¹³ Areshian 1972: 257; Esaian 1980: fig. 15: 3-5; Kuftin 1944: fig. 59.

¹⁴ Koşay 1976: pl. 32: 5; Ertem 1974: fig. 58: 3; Palmieri 1973: fig. 75: 8, 10. In this work andirons with horn-like projections have been discussed in relation to the Early Transcaucasian culture. Outside this region similar objects with horn-like projections have been found i.a. in Alişar and Mersin (Garstang 1953: fig. 90, 106; von der Osten 1937: 270, fig. 278). Similar to the Transcaucasian andirons one of the Mersin examples, shaped as a rectangular prism, is equipped not only with horn-like projections, but also with a handle in the centre of the upper surface. On other objects with horn-like projections found in the Near East and potential relationship between the horned objects from Anatolia and the Minoan 'horns of Consecration', see Diamant and Rutter 1969.

¹⁵ Not many examples of this type of andirons are known from the sites in the northern Caucasus, where the objects with horn-like projections mainly occur. Andirons from the northern Caucasus are found in smaller numbers and less numerous variants than on the southern side of the Caucasus.

¹⁶ Kikvidze 1972: fig. 8: 5; Khanzadian 1969: 166.

¹⁷ Chubinishvili 1963; Chubinishvili 1971: 66-68, pl. XXII.

¹⁸ Esaian 1980: 13-14; Khanzadian 1969: 157-170, fig. 6, 7.

¹⁹ Kuftin 1944: 119-120, fig. 74: 3.

²⁰ Khachatryan 1975: 72.

²¹ Kuftin 1944: 118-119, fig. 74: 1, 2.

rests on a foot²² (Fig. 4: 2). Three short, knob-like feet support some of the andirons from Arevik²³ (Fig. 4: 4, 5).

Andirons are accompanied by Early Transcaucasian Ware at Early Bronze Age sites in northeastern Anatolia (an area where the pottery characteristic of the Early Transcaucasian culture is usually identified as Karaz Ware). Horseshoe-shaped andirons are known, for example, from Karaz.²⁴ Until recently, no andirons with anthropomorphic decoration had been known from this area, which still remains rather poorly known in terms of archaeological data. In the 1990s, fragments of such objects were discovered at Büyüktepe Höyük and Sos Höyük near Bayburt²⁵ (Fig. 5: 1, 2). Anthropomorphic elements adorn two fragments of a horseshoe-shaped andiron which has been found at Cinis Höyük in the region of Erzurum.²⁶ Pieces of andirons have been recorded in the Sivas region, on the western outskirts of the Early Transcaucasian culture. Besides the fragments from Höyük Değirmeni, which belonged to two separate horseshoe-shaped andirons, a fragment with anthropomorphic decoration is also known from Tatlıcak²⁷ (Fig. 5: 3). On this fragment, below the plastically rendered face, there is a projection with an opening beneath. All the pieces are very friable, which indicates unplanned or very poor firing. Some examples of andirons appeared at Gelinciktepe in the region of Malatya.²⁸ One of the fragments of a horseshoe-shaped andiron with a raised central part, as well as one of the Tatlıcak examples, had been furnished with a hole, which could have been useful when removing the andiron from the hearth.²⁹

The Malatya-Elazığ area is where the local Anatolian traditions melted with Transcaucasian and Syro-Mesopotamian culture. The upper Euphrates region owed its attractiveness to the proximity to sources of metals, to its fertile soils, vast pastures and location upon the intersection of trade routes connecting this region with the south – with Syria and Mesopotamia. The latter one, being poor in raw materials, primarily sought metals in the upper Euphrates area. This region also received groups of people from Transcaucasia, who arrived there probably in several waves of peaceful migration. Beginning with the end of 4th Millennium BC, during their seasonal wanderings in search of grazing lands, the immigrants could have met with the settled inhabitants of the Malatya-Elazığ region. Many of the newcomers could have abandoned their pastoral way of life. In the Keban region, the greatest numbers of horseshoe-shaped andirons with anthropomorphic representations functioning as permanent hearths were found at Pulur/Sakyol where they were designated as ‘sacred hearths’.³⁰ In level X, in two

²² Khanzadian 1969: fig. 7: 2.

²³ Khanzadian 1969: fig. 6: 1, 5.

²⁴ Koşay and Turfan 1959: 395-396.

²⁵ Sagona, Pemberton and McPhee 1993: 71, fig. 2: 1; Sagona, Erkmen, Sagona and Howells 1997: 187, fig. 13: 1.

²⁶ Takaoğlu 2000: 11-16.

²⁷ Ökse 1993: 136, fig. 1a: 2, 3, 4.

²⁸ Palmieri 1967: 134, fig. 24: 3, 7.

²⁹ Fragments of andirons with anthropomorphic decoration were noted by Mellaart during his survey of the Konya Plain (Emirler, Evdereşe) in conjunction with the so-called Scored Ware (Mellaart 1963: 224, fig. 13: 18, 19). Examples of andirons with anthropomorphic decoration are also known from Alişar (von der Osten 1937: fig. 100: e 1732, 183: d 1683, 205: e 607, e 858, e 1283a).

³⁰ Koşay 1976: 145-148.

neighboring rooms (79 and 80), 'sacred hearths' of a similar form were situated opposite the entrance, near the back wall.³¹ These 'sacred hearths' are decorated with numerous faces, and resemble sitting figures with their hands extended forward in an encircling gesture. One of the faces is located on the raised central part, while others can be found below the principal face and also on the raised endings of the hearths (Fig. 6: 2). Room 80 also yielded many vessels, among them black burnished jars decorated with anthropomorphic reliefs. Clay objects (described as 'portable altars'), decorated with schematic facial representations on the raised ends, were discovered near the 'sacred hearth'³² (Fig. 6: 3, 4). These objects have openings in their bases, indicating that they may have been supported on poles. The 'sacred hearth' discovered in room 83 is distinguished not only by its size – ca 50 cm in height and 60 cm in width – but also by its special decoration³³ (Fig. 6: 1). The raised central part was covered with a relief image of a face, while double images of faces were also found on each ending of the hearth.³⁴ Among characteristic installations in the rooms in which 'sacred hearths' have been found are stone slabs, located behind the 'sacred hearths' and described by their discoverers as 'altars'.³⁵ If rooms containing 'sacred hearths' are interpreted as shrines, then there would be at least four of them in level X at Pulur/Sakyol. None of the rooms with "sacred hearths" is a separate, freestanding structure; on the contrary, they all belong to densely spaced residential complexes. The rooms' measurements and plans are alike, and, in most cases, so are installations therein, the most characteristic of which is a clay horseshoe-shaped hearth. Distinctive features of rooms interpreted as shrines (79, 80 and 83) are anthropomorphic elements on hearths and other objects, such as 'portable altars' (room 83), and stone slabs.³⁶

At Korucutepe and Norşuntepe horseshoe-shaped andirons of different sizes form groups of three, in which the biggest andiron embraces the middle one and this one, in turn, holds the smallest one.³⁷ Three andirons from Korucutepe were found inside a freestanding building of a public character designated as a 'hall' by the discoverers. The andirons stood on a round hearth platform in front of a podium built against the eastern wall³⁸ (Fig. 7). The andirons' shape is typical for the Keban region: their outer faces form reversed triangles.³⁹ The outermost andiron from the Korucutepe 'hall' was 81 cm, the middle one 43 cm, and the inner one 17 cm high. Traces of fire are in evidence, both on

³¹ Koşay 1976: 133-134, 145-146, pl. 19, 37.

³² Koşay 1976: 145-146, pl. 32: 6, 7, pl. 36.

³³ Koşay 1976: 136-137, 146, pl. 21.

³⁴ From Pulur/Sakyol other 'sacred hearths' are also known. A hearth shaped as a sitting figure comes from level IX (room 61), while in level XI (room 101) and level X (room 74) hearths with a relief depiction of oxes' heads were found (Koşay 1976: 131, 132, 146).

³⁵ Koşay 1976: 131-134, 136.

³⁶ Apart from the 'sacred hearths', which are typical for Pulur/Sakyol, this site has also yielded portable horseshoe-shaped andirons, in some cases furnished with a handle (Koşay 1976: 13, fig. 33: 2, fig. 35).

³⁷ A similar installation is known from Kültepe from the karum II period (Özgüç 1986: 9, pl. 27: 2). This analogy, as well as other examples from Anatolia, can be found in the article by Diamant and Rutter 1969: 154-155.

³⁸ van Loon 1978: 20-21, pl. 27-29, 84: C, D.

³⁹ The shape of the andirons from the Korucutepe "hall" is not unique in the region of Elazığ. Other examples are known from, *inter alia*, Tepecik (Esin 1972: pl. 109: 1, 2, 110: 4), Korucutepe (van Loon 1978: pl. 23A, 80A) and Pulur/Sakyol (Koşay 1976: fig. 33: 2).

the platform, which is partly fired and blackened, and on the andirons. Van Loon believes this set of andirons to have been an altar.⁴⁰ An argument in favor of such a hypothesis is, in his opinion, the fact that the andirons were placed against a podium in a freestanding structure with thick walls and an entrance on bent axis. Unlike the 'hall' from Korucutepe, the room at Norşuntepe where the 'triad' of andirons has been found lies within a residential quarter, where, in addition to dwellings, kitchens and storerooms have been identified.⁴¹ Both at Norşuntepe and at Korucutepe the groups of andirons were placed in front of a bench stretching along the wall. In the Elazığ region it is not an unusual location for hearths. Many hearths accompanied by andirons were placed not in the centre of rooms, as was generally the case in Early Bronze Age Transcaucasia, but beside walls, frequently in front of a podium or bench. It seems that the 'triads' of andirons uncovered at Korucutepe and Norşuntepe constitute a later stage in the development of these installations – the groups of three andirons from Korucutepe E and Norşuntepe VIII are dated to an early phase of the Early Bronze III (ca 2550-2100 BC).

At Yanik Tepe, a site in northwestern Iran, where levels with Transcaucasian pottery and architecture were identified, Burney mentions a 'curious incised object' found in level 3A and interpreted as a part of a hearth⁴² (Fig. 8: 1). In the upper part, the object is decorated with a schematic image of a face below which there is a geometrical pattern of a chessboard of incised rhomboids – some of them filled with hatched lines, some with smaller concentric rhomboids.

The Braidwoods mention finding in the Amuq region (e.g. Tell al-Judaïdah, Tell Ta'yinat) hundreds of andiron fragments, accompanied by Transcaucasian pottery (designated in the publication as Red-Black Burnished Ware), characteristic of Amuq H-I⁴³ (Fig. 8: 2, 3). The raised parts of the andirons were usually covered with impressed or plastic decoration: a schematic face in the upper part with a geometric ornament beneath. Levels with Transcaucasian pottery, including some pieces of andirons with anthropomorphic decoration, were discovered at Tabara el-Akrad. Hood described them as pot-stands⁴⁴ (Fig. 8: 4, 5). He supposes that these objects could have been used to support pots above the 'cooking holes', which are characteristic for Transcaucasian levels at this site.⁴⁵ The best-preserved example of an andiron with anthropomorphic decoration was found on the floor of a room from level III. Its surface is blackened, which suggests it had contact with fire. Apart from the Amuq region and Tabara el-Akrad, Khirbet Kerak Ware is also known from the lower Orontes Valley, down to Hama in the south, as well as from sites on the Mediterranean coast of Syria (e.g. Ras Shamra, Qala'at er-Russ, and Tell Sukas).⁴⁶

⁴⁰ van Loon 1978: 98.

⁴¹ Hauptmann 1972: 110, pl. 65: 2; Hauptmann 1976: 77, pl. 60; Hauptmann 1979: 68-69, pl. 39.

⁴² Burney 1961: 148, pl. LXXIV: 60.

⁴³ Braidwood and Braidwood 1960: 371-373, fig. 290-291, 307: 21-22.

⁴⁴ Hood 1951: 139-140, pl. XI: A, B, fig. 9.

⁴⁵ Hood 1951: 123.

⁴⁶ Miroschedji 2000: 257-258. Philip and Millard, having analyzed the spatial distribution of Khirbet Kerak Ware in Syria-Palestine and its dating in this region, put forward the hypothesis that Khirbet Kerak Ware arrived via a sea route along the Levantine coast, not by a land route as it is traditionally accepted. This would provide an explanation for the lack of Khirbet Kerak Ware between Hama and northern Palestine (Philip and Millard 2000: 286).

In Palestine, Khirbet Kerak Ware, which is foreign to the local ceramic repertoire, appears in the beginning of EBIII (ca 2700/2650 BC) and disappears around 2450 BC.⁴⁷ Khirbet Kerak Ware is most profuse at sites in northern Palestine, around Lake Tiberias and in the northern Jordan Valley. It is far less frequent south of the Plain of Esdraelon, where, according to some authors, it may have arrived by means of commercial exchange.⁴⁸ In Palestine fragments of andirons with anthropomorphic decoration were found at Beth Yerah (Khirbet Kerak)⁴⁹ (Fig. 8: 6, 7) and Beth Shan,⁵⁰ where they were identified as 'fenders' (fig. 8: 8). From Tell 'Ay comes a fragment of a horseshoe-shaped andiron, which was described as a brazier or a pot-stand.⁵¹

In addition to these basic categories other kinds of hearth stands were also used. In the northern Caucasus region (*inter alia* in Lugovoe, and Serzhen Iurt) and in Transcaucasia (*inter alia* Khizanaant Gora, Garni, Shengavit, Kiultepe-Nakhichevan, Tkviavi, Zemo-Avchaly, and Zgudris-Gverda) cylindrical, or spool-shaped, stands were in use⁵² (Fig. 9: 1, 2). They are rather small objects, most often measuring ca 10 cm in height, with a horizontal hole bored approximately in the middle. Cylindrical hearth stands along with a vessel have been found *in situ* in a hearth at the site of Lugovoe.⁵³ Clay spool-shaped stands with wide, flat bases are known from sites in the upper Euphrates region, e.g. from Pulur/Sakyol, Korucutepe, and Değirmen-tepe⁵⁴ (Fig. 9: 3, 4). The objects found at Korucutepe were described as 'skewer supports' (one of the fragmentarily preserved stands was perforated).⁵⁵ Another group, which is present in the northern Caucasus, is constituted by perforated stands in the shape of a rectangular prism, with raised shorter sides characterized by two or three grooves in their concave upper surface (Fig. 10: 4). Such stands are known from Lugovoe.⁵⁶ From this site also comes a stand in the shape of a rectangular prism with rounded corners and with drill holes in its upper surface and in one of the sides⁵⁷ (Fig. 10: 2). At Sos Höyük, prism-like stands of the truncated pyramidal type have been discovered; the perforations did not pierce their whole body⁵⁸ (Fig. 9: 5, 6). Prism-like stands with horizontal holes have been encountered in the Keban region, *inter alia* at Han İbrahim Şah, as well as in the region of Malatya, where a similar object has been found at Arslantepe.⁵⁹ Aşvan Kale provided a

⁴⁷ Philip and Millard propose ca 2800 BC as the date of Khirbet Kerak Ware's appearance in northern Palestine, based on new radiocarbon evidence (Philip and Millard 2000: 284).

⁴⁸ Miroschedji 2000: 259.

⁴⁹ Amiran 1952: pl. 6D; Amiran 1989: 9, fig. 2.

⁵⁰ Fitzgerald 1935: pl. X: 18.

⁵¹ Marquet-Krause 1949: pl. LXXV: 1521. In northern Palestine andirons have also been reported at 'Afula, Yaqush, Tell esh-Shuna (Miroschedji 2000: tab. 1).

⁵² Munchaev 1961: fig. 4: 1; Munchaev 1975: 361-363, fig. 78: 1-3; Kikvidze 1972: fig. 8: 4; Kuftin 1947: fig. 1: 2, 4.

⁵³ Munchaev 1961: 111, fig. 35.

⁵⁴ Koşay 1976: pl. 33: 4; van Loon 1978: 98-99, fig. 132C; Duru 1979: 77, fig. 23: 3-4.

⁵⁵ Spool-shaped stands were also used at Tarsus and Pulus (Goldman 1956: 320, fig. 442: 23-24; Koşay and Vary 1964: pl. XXVI).

⁵⁶ Munchaev 1961: fig. 43; Munchaev 1975: 362, fig. 79: 10.

⁵⁷ Munchaev 1961: fig. 44: 3; Munchaev 1975: fig. 79: 8.

⁵⁸ Sagona, Erkmén, Sagona and Howells 1997: 187, fig. 13: 2-4. Analogous stands, which belong to the truncated pyramidal type, are known from Tarsus (Goldman 1956: 324, fig. 16-20).

⁵⁹ Ertem 1974: fig. 58: 2; Palmieri 1973: fig. 75: 7.

fragment of an andiron, or a part of a hearth, shaped as a rectangular prism with a pierced body and anthropomorphic elements placed on the surface of one of its shorter sides⁶⁰ (Fig. 10: 5). In the Early Transcaucasian culture hearth stands in the shape of a tripod were also used. Stands of this type, with a flat upper surface, and resting on three legs, are known from Transcaucasia, mainly from Armenia, where they have appeared at sites such as, Arevik, Shresh Blur, Shengavit, Dvin, and Garni⁶¹ (Fig. 11: 1, 2). Some of the tripod hearth stands (e.g. those from Shresh Blur and Arevik) stand out for the decoration of their sides. One of the components of this decoration is a tendril corresponding to those encountered on Transcaucasian vessels and clay hearths. A tripod from Değirmentepe in the Keban region has a flat upper surface and holes in two of its sides⁶² (fig. 11: 5). From Serzhen Iurt are small, just 6 cm high and 9 cm wide, hearth stands furnished with four legs.⁶³ In the territory of Armenia, (e.g. Arevik and Shengavit), flat circular stands have been discovered⁶⁴ (Fig. 11: 3, 4). The upper face of these circular stands was decorated with motives such as spirals and tendrils, which are also present on Transcaucasian vessels.

Hearths in the Early Transcaucasian Culture

Besides andirons, which are also occasionally called 'portable hearths', other characteristic features of the Early Transcaucasian culture are clay hearths, many of them decorated. In Transcaucasia and eastern Anatolia circular clay hearths were used, which had several projections directed inwards from the edge of the hearth. Such hearths, with internal projections forming a clover pattern are known *inter alia* from Khizanaant Gora, Kvatskhelebi, and Shengavit.⁶⁵ In the region of Transcaucasia circular hearths with a hollow in the middle were also in use (in Amiranis Gora hearths of this type measured up to 1.2 m in diameter) alongside cylindrical thick-walled hearths which were built into the floor, like those discovered at Kiultepe-Nakhichevan, where they occupied the centre of round houses.⁶⁶ Karaz yielded circular clay hearths with three raised projections in the middle, which were decorated with floral elements in high relief.⁶⁷ At Sos Höyük, inside one of the rooms dated to EB II a circular clay hearth was discovered, originally equipped with central projections and decorated with tendril motifs in relief.⁶⁸ The circular hearths with central projections, which are characteristic for Transcaucasia and eastern Anatolia hardly ever appear in the Elazığ region. Yet such hearths have been discovered at Norşuntepe in, among others, levels XVI and XVII where they furnished houses built in the wattle-and-daub technique.⁶⁹ Both the type of the hearths and the method of

⁶⁰ Sagona 1994: fig. 135: 6.

⁶¹ Khanzadian 1969: 168, fig. 9: 1, fig. 10.

⁶² Duru 1979: 77, pl. 22: 1.

⁶³ Munchaev 1975: 343, fig. 78: 5, 6.

⁶⁴ Khanzadian 1969: 164, fig. 5.

⁶⁵ Kikvidze 1972: fig. XV: 1; Munchaev 1975: fig. 19; Khanzadian 1967.

⁶⁶ Chubinishvili 1963; Abibullaev 1959: 443; Chubinishvili 1971: pl. XVI: 2.

⁶⁷ Koşay and Turfan 1959: 397.

⁶⁸ Sagona 2000: 334, pl. 5.

⁶⁹ Hauptmann 1979: 70-72, pl. 26, 40.

construction of the houses point to a Transcaucasian influence. In the Keban region, circular and horseshoe-shaped hearths are among the commonest types. The horseshoe-shaped hearths were usually installed upon low clay platforms, which were the actual hearths, where a fire burned. On circular hearths portable andirons could have been placed.⁷⁰ Andirons and clay pot stands have been discovered standing on a circular grooved hearth at Değirmentepe,⁷¹ while at Tepecik bowls resting on pot stands have been found on a circular clay hearth.⁷² Horseshoe-shaped hearths were utilized in the Malatya region. In one of EB II rooms at Arslantepe, an excellently preserved hearth was excavated, the sides of which were decorated with double moulding.⁷³

The Nature of the Cult and Rituals in the Early Transcaucasian Culture – the Significance of Andirons and Hearths

Due to the paucity of material of unequivocally religious nature along with lack of written sources it is difficult to trace the religious beliefs of inhabitants of Transcaucasia and eastern Anatolia in the Early Bronze Age. With the exception of the rooms at Pülür/Sakyol, which have been interpreted as sanctuaries and which possess a certain similarity to shrines from Beycesultan, archaeological material dating to the Early Bronze Age from this region has yielded few traces of religious life. While attempting to define the role of andirons and to reconstruct the realm of the sacred, it is worthwhile to look at the natural conditions as well as lifestyle and economic background which might have had an influence on the form of religious beliefs of the peoples of Transcaucasia. Pastoralism, the growth of which was enhanced by the mountainous areas of Transcaucasia and eastern Anatolia with their vast grazing lands, played a significant role in local economy. Many Early Bronze Age sites were merely temporary camps, which were used when herds were driven to seasonal pastures. According to Cribb, the Early Transcaucasian culture was not, strictly speaking, a nomadic one, but could have encompassed a significant yet variable nomadic element.⁷⁴ In the Early Bronze Age Transcaucasia, we have 'a form of periodic nomadization alternating with lengthy phases of settlement'.⁷⁵

Andirons, along with other components of its material culture, reflect the itinerant lifestyle of the Transcaucasian society. It is noteworthy that the number of andirons in Transcaucasia rose in the late 4th Millennium BC, when the importance of pastoralism increased, and so did human mobility. In conditions of considerable mobility, these portable objects could have played an important, also cultic, role. Andirons may have served as portable 'shrines'. Unlike fixed clay hearths, they could have been taken on

⁷⁰ van Loon 1978: 16, 19, pl. 23A, 82A, 83B, 84B; Koşay 1976: 123-124, fig. 34; Ertem 1972: 72, pl. 41: 1; Hauptmann 1976: 77, fig. 60; Hauptmann 1979: 67-70, fig. 38-39, 25: 2; Duru 1979: 76, pl. 12: 2, 18: 1, 21: 1, 3, 24: 4.

⁷¹ Duru 1979: 72, pl. 21: 3.

⁷² Esin 1972: 154, pl. 106.

⁷³ Frangipane 1992: 214, fig. 1b. Horseshoe-shaped hearths appear also outside the scope of the Early Transcaucasian culture. Hearths of this type, situated on clay platforms, belonged to the equipment of houses at Kültepe-Kaniş (karum II); Özgüç 1959: 96.

⁷⁴ Cribb 1991: 221-223.

⁷⁵ Cribb 1991: 223.

numerous journeys, in search of seasonal pastures for instance, and therefore enabled the performance of cultic activities on the move. The Transcaucasian portable hearths from the 3rd Millennium BC find their contemporary counterparts in small metal tripods that are commonly used by modern nomads.⁷⁶ Apart from the andirons, the itinerant lifestyle of Transcaucasian peoples is also reflected in architecture, e.g. in house plans, their construction methods and in localization of settlements. The Neolithic (when agriculture had become the main mode of economic subsistence) sees the preeminence of oval houses built of mud brick with hearths situated usually near the walls (e.g. Shulaveris Gora). Inside the houses of the Early Transcaucasian culture in the Early Bronze Age, decorated hearths of a developed form appear; they are, in most cases, placed in the centre of the room. This arrangement of the interior, with a central hearth, platforms around the walls, and a pillar supporting the roof in the middle of the room, resembles the inside of a nomads' tent. Another manifestation of the itinerant lifestyle is the wattle-and-daub structure, characteristic of the Early Transcaucasian culture. Buildings erected in this technique are rectangular in plan, yet their corners are rounded; both their plan and the construction method make them reminiscent of certain nomads' tents. Such houses have been unearthed at Kvatskhelebi and Khizanaant Gora, as well as at Sioni in Transcaucasia.⁷⁷ This building tradition had been brought by groups of people from Transcaucasia into the upper Euphrates region, where e.g. at Norşuntepe, Değirmentepe and Taşkun Mevkii wattle-and-daub structures and rectangular mud-brick houses were built at the same time.⁷⁸

Not many of the excavated rooms, especially among those in Transcaucasia, can be convincingly interpreted as temples or shrines.⁷⁹ The search for temples as separate structures is rarely successful and not merely because of insufficient field research. It has become necessary to take into consideration the possibility that the people in Transcaucasia and eastern Anatolia in the Early Bronze Age did not need to erect special structures in order to perform their rituals. With andirons and hearths, which belong to the traditional equipment of a house of the Early Transcaucasian culture, the rituals could have taken place in ordinary houses, in the family circle. The existence of un-centralized household cult does not rule out the possibility of existence, at least in some settlements, of separate rooms which may have been erected to serve as shrines. The andirons inside them could have taken on a more 'monumental' and elaborate form. 'Monumental' andirons, or rather permanent hearths imitating andirons, have been found at sites in the Keban region (Pulur/Sakyol, Norşuntepe, and Korucutepe). Norşuntepe and Korucutepe belong to the biggest settlements in the Elazığ area, and the Early Bronze Age III (ca

⁷⁶ Cribb 1991: 220. In the Early Transcaucasian culture hearth stands in the form of tripods were also known.

⁷⁷ The wattle-and-daub dwellings are similar to some structures of the 'kula' type, known from Iran and Afghanistan (Cribb 1991: 221).

⁷⁸ Hauptmann 1979: 70-72, pl. 26, 40; Hauptmann 1982: 48-49; Duru 1979: 69-75, pl. 69, 71: 1; Sagona 1994: 5-6.

⁷⁹ At Kvatskhelebi discoverers thought House 1 from level C1 to have been a temple. The plan of the building differs from the standard plan of other houses in the settlement. Besides the central hearth, on the nearby bench painted red, fragments of an andiron were found, along with vessel lids and an anthropomorphic figurine (Dzhavakhishvili and Glonti 1962: 60). In addition to the red-painted bench from Kvatskhelebi, the walls of the room, which yielded the andiron "triad" at Norşuntepe were covered with red plaster (Hauptmann 1972: 110).

2550-2100 BC), the period which witnessed the andiron 'triads', was a time of development and prosperity for the region. Public structures discovered at these sites (e.g. storerooms at Norşuntepe, or the 'hall' at Korucutepe) testify to the affluence of these centres and to the growth of the socio-economic complexity, hence it is hardly surprising that the cult also obtained an institutionalized and more monumental form.

Andirons do not testify only to a homogeneity of material culture; they also attest that in settlements of the Early Transcaucasian culture, scattered from Transcaucasia and eastern Anatolia to Syro-Palestine and Iran, similar rituals may have been conducted. The form of the rituals escapes our knowledge, but it is to be assumed that fire played an important role, either serving a cultic function, (it was probably the fire itself that made the andirons and hearths sacred) or heating the contents of a vessel placed inside the andiron during the ritual. The supposition that a vessel was placed inside a horseshoe-shaped andiron is supported by the presence of internal knobs on the andiron as well as by hearth pebbles, which could have functioned as warm-up plates maintaining temperature inside the vessel. Dozens of pebbles were found at Korucutepe, some of them inside or beside hearths.⁸⁰ From the same site comes a pebble and a bowl, both found inside a horseshoe-shaped andiron.⁸¹ A similar plate was discovered inside the andiron 'triad' from Korucutepe, which probably served a public purpose.⁸² A big flat stone, which could have had a similar function as the Korucutepe examples, was found upon a round hearth platform of the 'sacred hearth' in shrine 83 at Pulus/Sakyol.⁸³ This may indicate that during some rituals in the Pulus/Sakyol shrine a vessel (with its contents) was used, which was placed upon a stone plate inside the hearth. The rooms at Pulus/Sakyol which have been interpreted as shrines (*inter alia* room 79, 80 and 83), were furnished not only with 'sacred hearths' but also with big ovens and small horseshoe-shaped hearths, which could have been used for heating and cooking. Therefore the 'sacred hearths' could have served a separate ritual function. At Tabara el-Akrad a role similar to that of the 'warm-up plates' could have been played by 'cooking holes' which, along with pottery and andirons, are the most characteristic features of the Khirbet Kerak culture at this site.⁸⁴ These shallow holes had usually been dug near the hearth and were carefully filled with pebbles and potsherds. The diameter of the 'cooking holes' (ca 25 cm) corresponds to the average width of the andirons. The practice of using pebbles and potsherds in the construction of 'cooking holes' is reminiscent of the structure of certain ovens and hearths. At sites throughout the Malatya-Elazığ region, such as Değirmentepe, Tepecik, Korucutepe, and Arslantepe, the floor of the hearths and ovens was often paved with potsherds and pebbles, which were occasionally plastered with clay.⁸⁵

⁸⁰ van Loon 1978: 103-104.

⁸¹ van Loon 1978: 13, pl. 80A.

⁸² van Loon 1978: 21.

⁸³ Koşay 1976: 146, pl. 21.

⁸⁴ Hood 1951: 123.

⁸⁵ Duru 1979: 75-76, pl. 21: 1, 2; Esin 1976: 112; van Loon 1978: 9-10; Frangipane 1992: 213-214.

The Role of Fire in the Early Transcaucasian Culture and Ethnographic Analogies

Fire played a crucial role in rituals performed with andirons and hearths. The significance of fire in various cultures is common knowledge.

“Fire with its warmth and light, fulfills a vital requirement of human life. Yet the same element can wreak sheer destruction. Both the positive and negative functions are united in fire’s role as an instrument of melting, refinement and purification. In a religious context, fire has, through its widely varying character, come to play a very large role in cult, myth and symbolic speech. The abundance of variations is great in different religions, cultures and epochs and is partly universal to all mankind and partly historically conditioned, particularly in the Indo European context.”⁸⁶

Fire is the symbol of life and home, a place around which the life of a family concentrates. Life and fire were so closely bound that a custom common to many different cultures demanded that the household fire should be extinguished when a death in the family occurred.

In the face of a lack of written sources which could shed some light at the nature of religious beliefs of the pastoral societies from the 3rd Millennium BC Transcaucasia and eastern Anatolia, some information can be sought in the results of ethnographic research. Shamanic religion of the nomads from the steppes of Central Asia is one of the sources suitable for a comparative analysis. In shamanism, fire, and above all the domestic fire, was an object of worship.⁸⁷ The spirit of the fire represented the guardian spirit. The choicest morsels had been thrown into the fire before each meal in a request for a blessing. It was forbidden to ‘offend’ the fire by throwing refuse or impurities into it, and no sharp tools could be used around it. The Mongolians believed that inserting a knife into the fire, or using an axe next to it was a sin, as it could cause injure to the fire’s spirit. The spirit of the domestic fire was generally imagined as a female deity. Kindling the fire was women’s task. The woman, the hearth and home were related by complex ideas pertaining to warmth, cooking and light.

Ethnographic data confirm that the hearth (Turkish: *ocak*, Persian: *chaleh*) is among the most characteristic and important elements of household equipment.⁸⁸ It is also the hearth that remains as the most conspicuous piece of archaeological evidence of a deserted nomad’s camp. For the Mongolians, each element of construction of the yurt has a certain symbolic significance connected with the religious sphere.⁸⁹ An exceptional space is the area dedicated to the domestic fire. Marking out the area on which a yurt will be built, is begun by the head of the family by placing stones upon which the fire stand will be supported. New fire in the yurt must be lit with tinder and not with matches. The central part of the yurt, where the fire burns, is called “the disused area”. It is often strewn with sand and must not be crossed.

In shamanism, fire is believed to purify and to repel evil forces. This belief in the purifying force of fire played an important role in religious ideas of the nomadic

⁸⁶ Eliade 1987: 340.

⁸⁷ Kałużyński 1988: 128.

⁸⁸ Cribb 1991: 92.

⁸⁹ Szyjewski 2001:418-420.

Mongolians.⁹⁰ The pope's envoy to the court of the Grand Khan, Giovanni de Plano Carpini, had to pass between two fires, through a kind of gateway, made of two spears stuck into the ground and bound with a rope overhead, before he was received by the ruler of the Golden Horde Batu Khan. This practice, which was employed also on other occasions when there was a necessity for spiritual purification, was aimed at taking away the envoy's powers of wrongdoing and stopping him from casting spells. It was also meant to bar the way for the evil spirits that accompanied him.⁹¹

As a source of warmth, the hearth is particularly important in the climate of the Transcaucasian and eastern Anatolian regions, where the winters are long and exceptionally severe. The harsh weather conditions, so unfriendly and unfavorable for men, were probably what added greatly to the outstanding and essential role of hearths and andirons in the Early Transcaucasian culture, where they appeared in elaborate and varied forms, (such as andirons with horn-like projections, horseshoe-shaped andirons, circular, cylindrical and prism-like stands, andirons shaped as tripods, etc.). Even today, in certain parts of Turkey the hearth is considered a sacred spot. Koşay describes a custom from the Turkish village of Ispir, in the vicinity of Erzurum. Each time flames suddenly erupt from the fire, the phrase '*gil haşşa*' is shouted.⁹² In Turkish and in some Caucasian dialects '*gil*' means 'home', 'a family' or 'a clan'. Another practice known from Turkey, is the throwing some salt or butter into the fire. Women from the Kara-Keçili tribe, when starting the fire in the morning, chucked a lump of butter into it, shouting '*ot ana ot ata*'.⁹³ Of course, sprinkling salt or casting fat into the fire created an effect enhancing the blaze of flames.⁹⁴

Many of the horseshoe-shaped andirons were adorned with anthropomorphic figures, which are mostly interpreted as representations of deities or idols. At Pülür/Sakyol, the rooms in which 'sacred hearths' were found have been interpreted as shrines dedicated to the fertility goddess.⁹⁵ Takaoğlu attempts to explain the role of the hearths found in northeastern Anatolia and dated to the 3rd Millennium BC, by seeking similarities with the Hittite *hašša*, regarding the andirons with anthropomorphic decoration as a personification of the god of the hearth.⁹⁶

Due to the lack of textual evidence, a detailed interpretation of the anthropomorphic and zoomorphic representations on the andirons is impossible, as is a reconstruction of the rituals performed with the andirons. Nonetheless, it seems plausible to treat the andirons, not only as characteristic features of the material culture and objects

⁹⁰ Kałużyński 1988: 122.

⁹¹ Even before the advent of Zarathushtra, trials by fire were practiced in Indo-Iranian territories. The accused person could prove his or her innocence by walking uninjured between two piles of wood set ablaze. Pagan Slavs welcomed the beginning of summer by celebrations which included purifying practices such as jumping over a bonfire (Szafranski 1988: 461).

⁹² Koşay 1976: 147.

⁹³ Koşay 1976: 147-148.

⁹⁴ This effect was already known to the Hittites. In Old Hittite texts divinations based on observation of fire are attested (Popko 1989: 50, 123). During Hittite magical rituals, the old woman sprinkled the fire with salt or splashed it with water. The hearth was an important factor in Hittite religion (Popko 1978: 48-59).

⁹⁵ Koşay 1976: 145-146.

⁹⁶ Takaoğlu 2000: 14-15.

of everyday use (i.e. hearth stands), but also as an important element of the religious life of the Transcaucasian society. The monumental version of andirons, the so-called 'sacred hearths' with anthropomorphic decoration found at Pülür/Sakıyol and the 'triad' of andirons from Korucutepe, which did not have a mere function in the process of food preparation, may all be brought forward as one of the arguments in favor of defining the ritual role of andirons. Ethnographical parallels with nomadic groups from eastern Turkey and Central Asia also attest to the importance of domestic fire. Andirons were, above all, connected with household cult. The hearth was the centre of family life. As such, it could have not only served domestic activities but also could have been an 'altar' – a place where rituals were performed, in which the andirons played a significant role.

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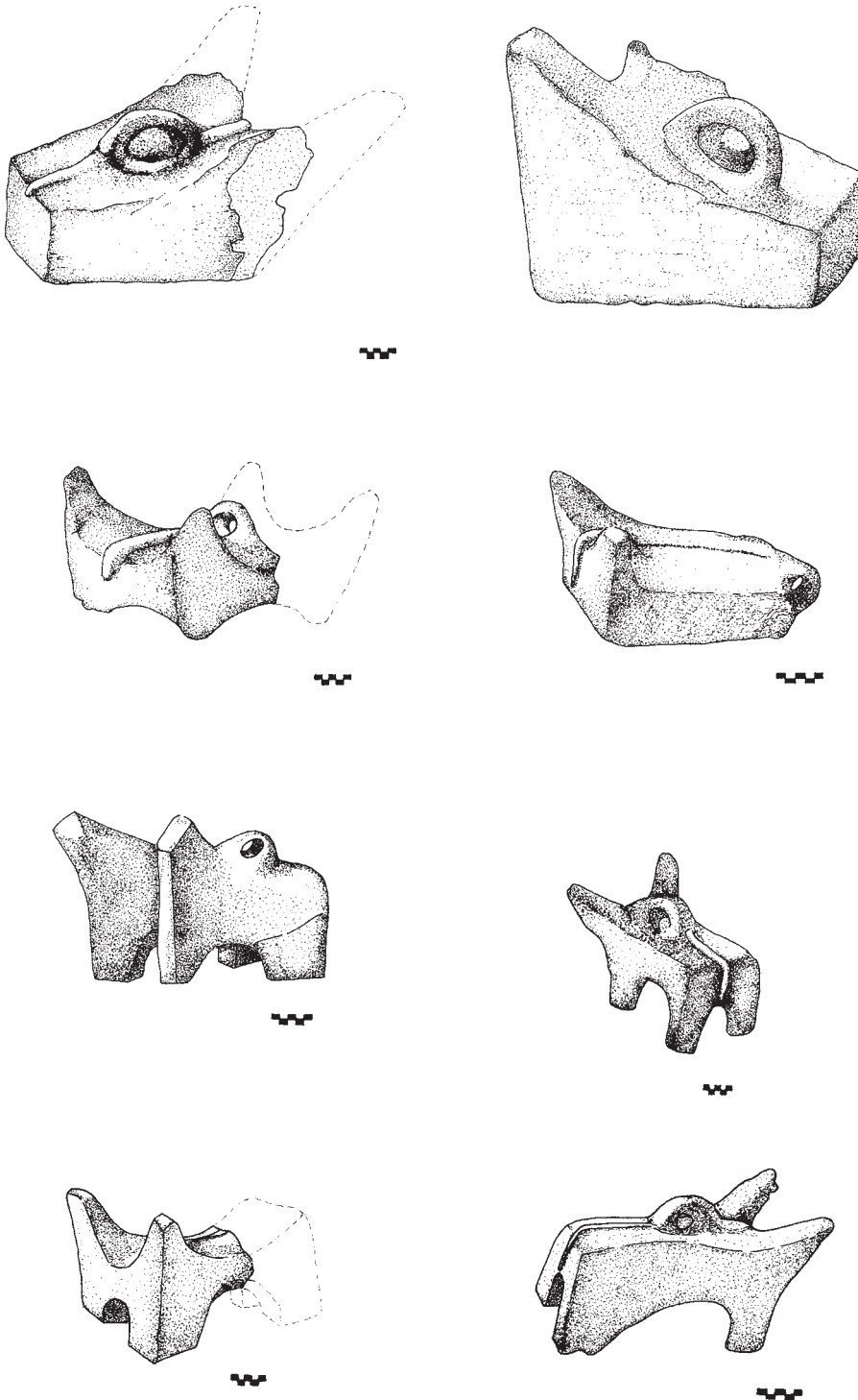


Fig. 1.

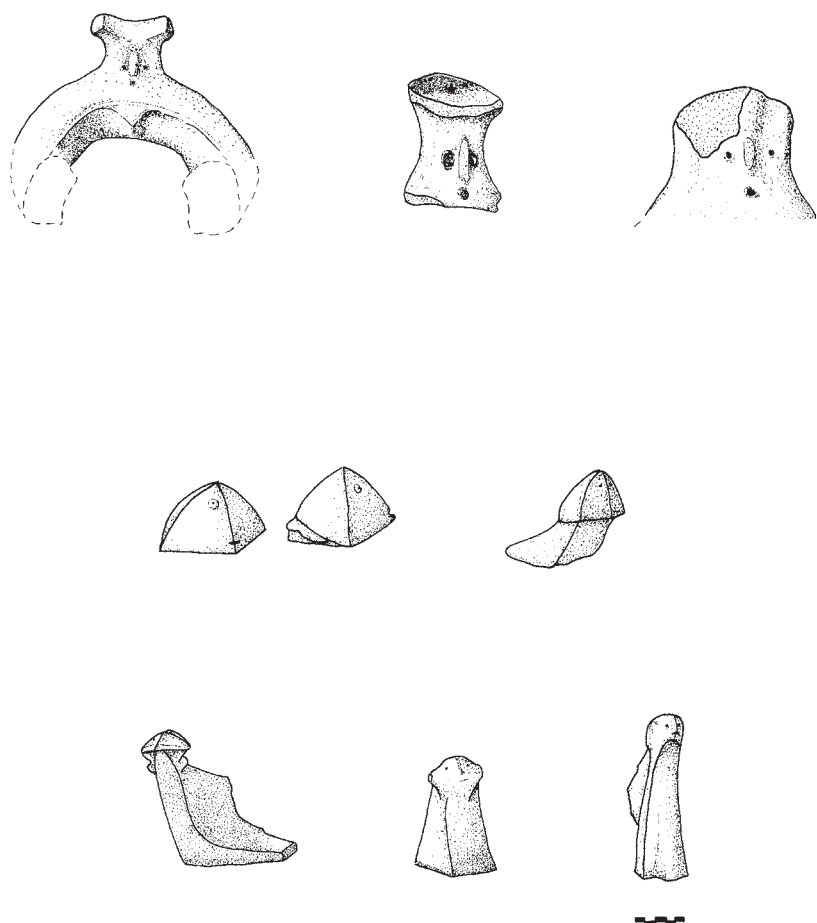


Fig. 2.

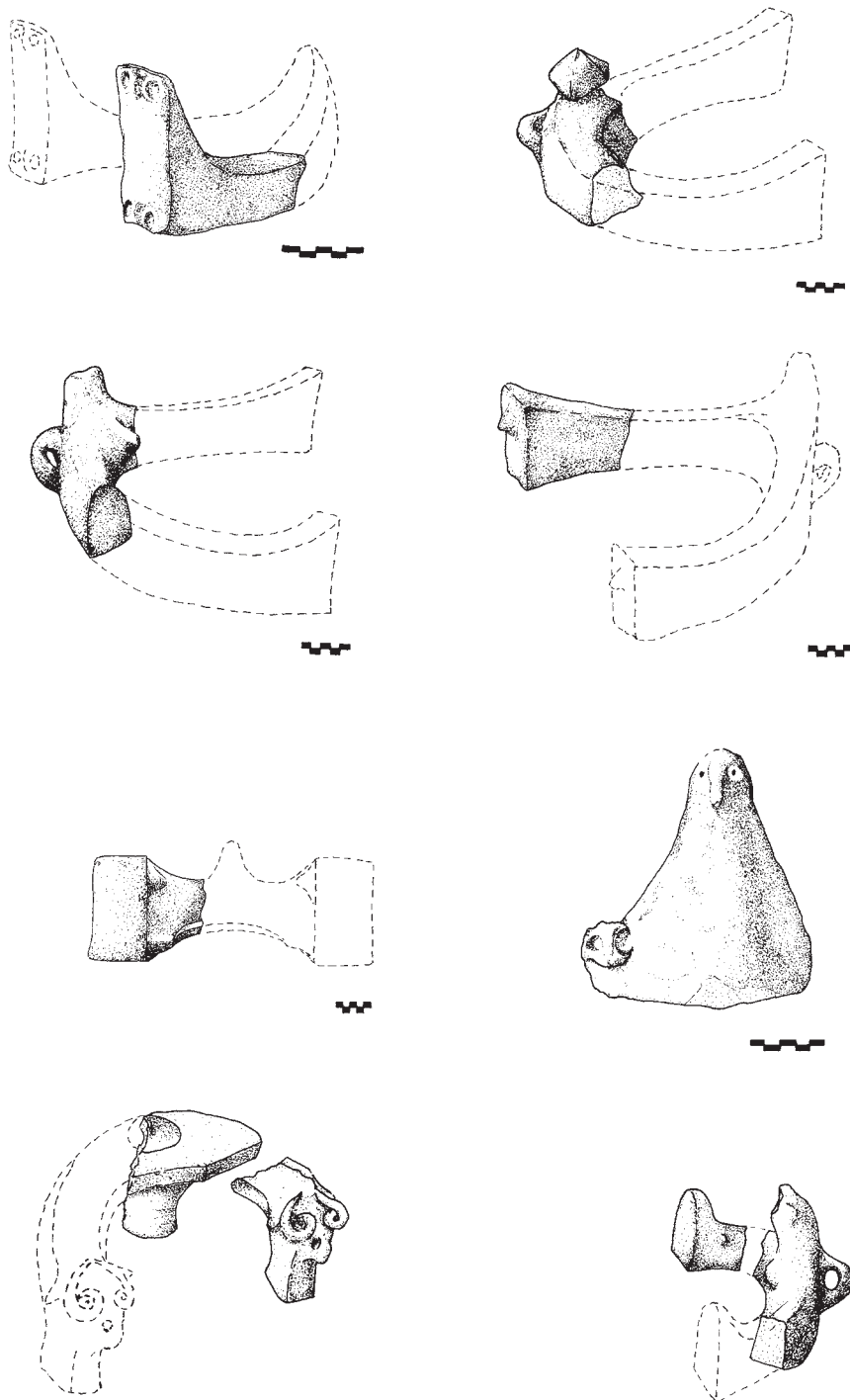


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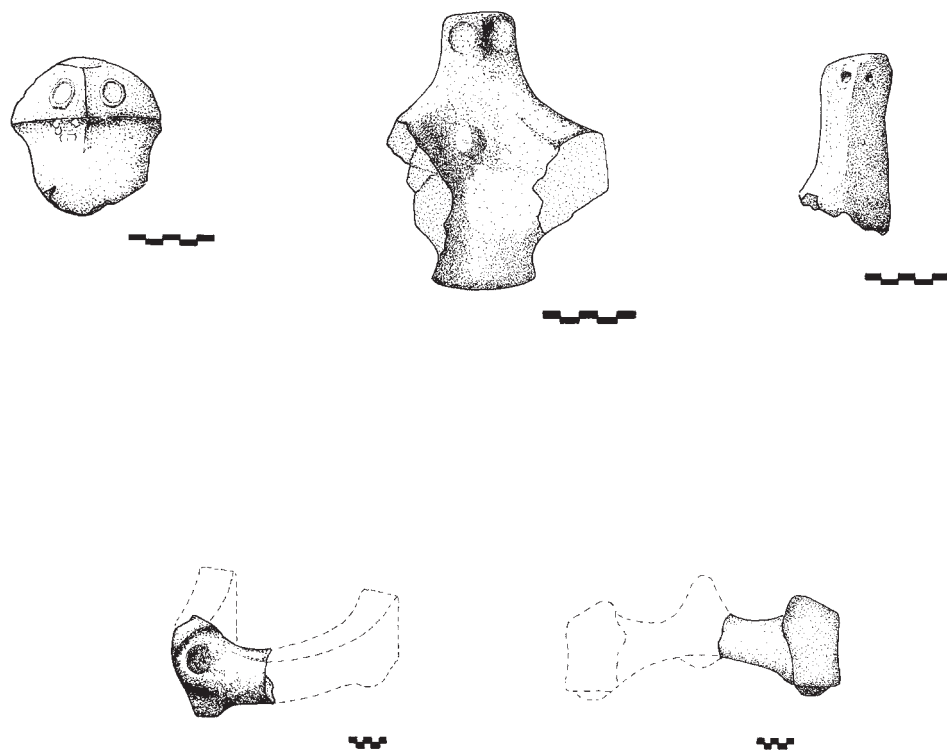


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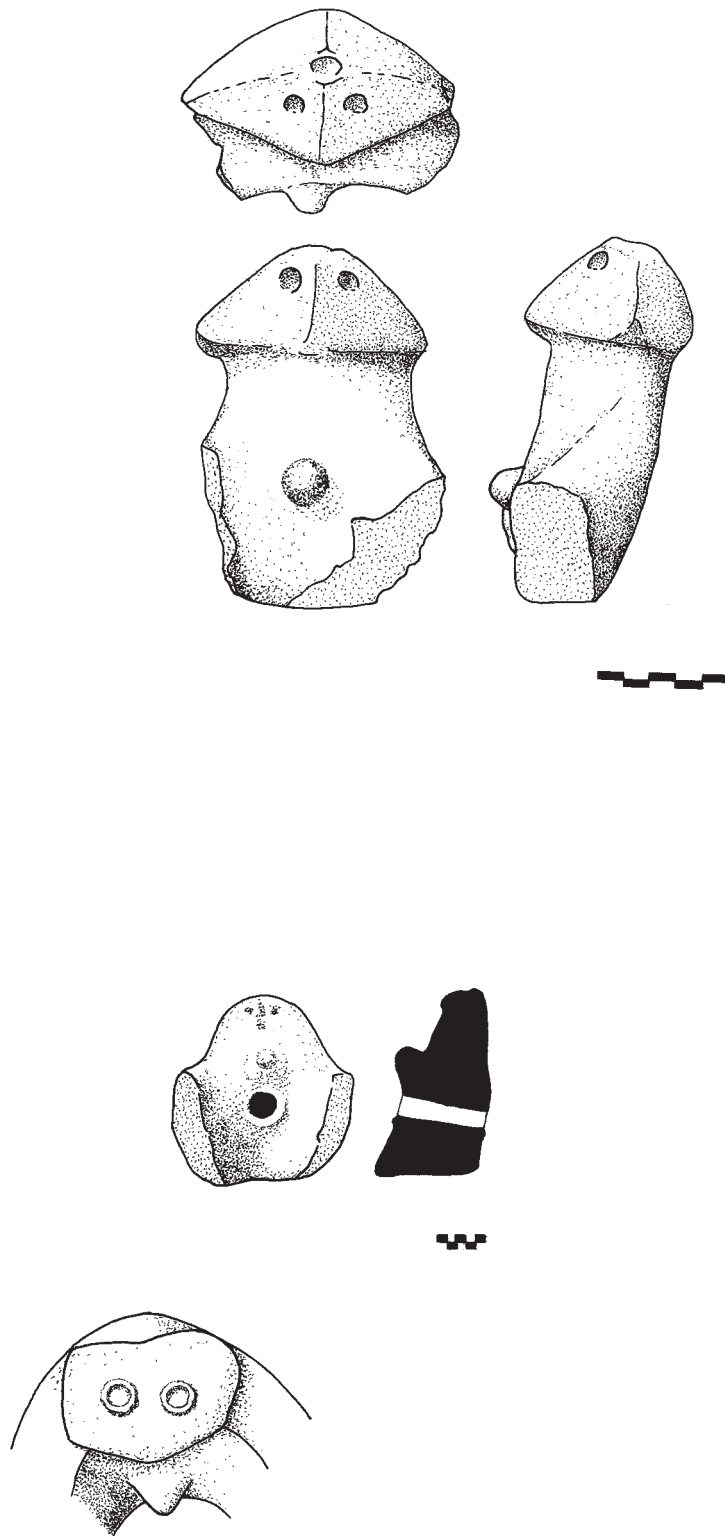


Fig. 5.

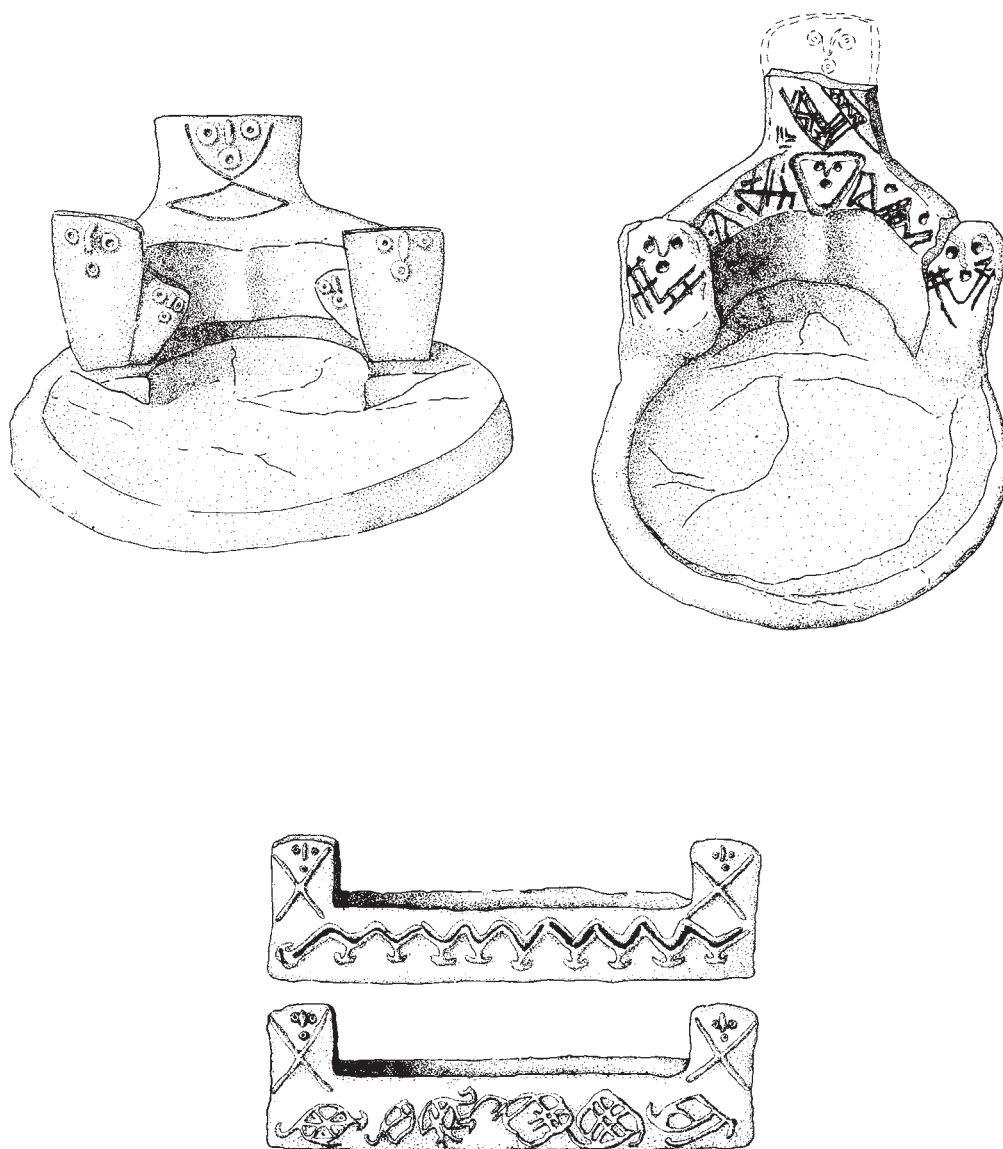


Fig. 6.

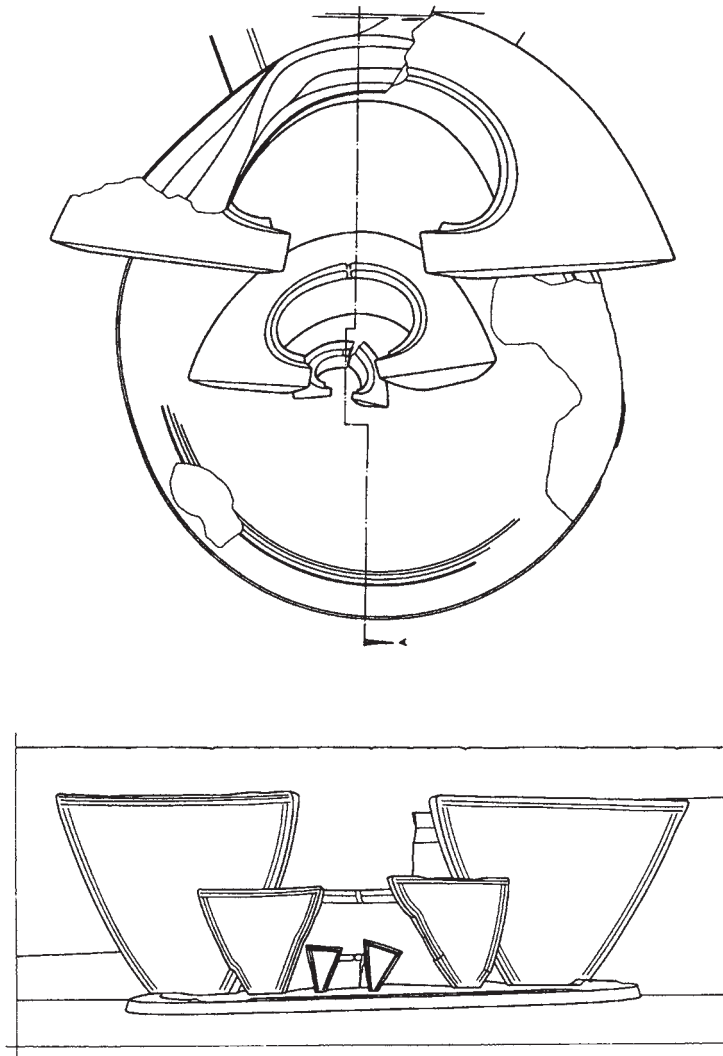


Fig. 7.

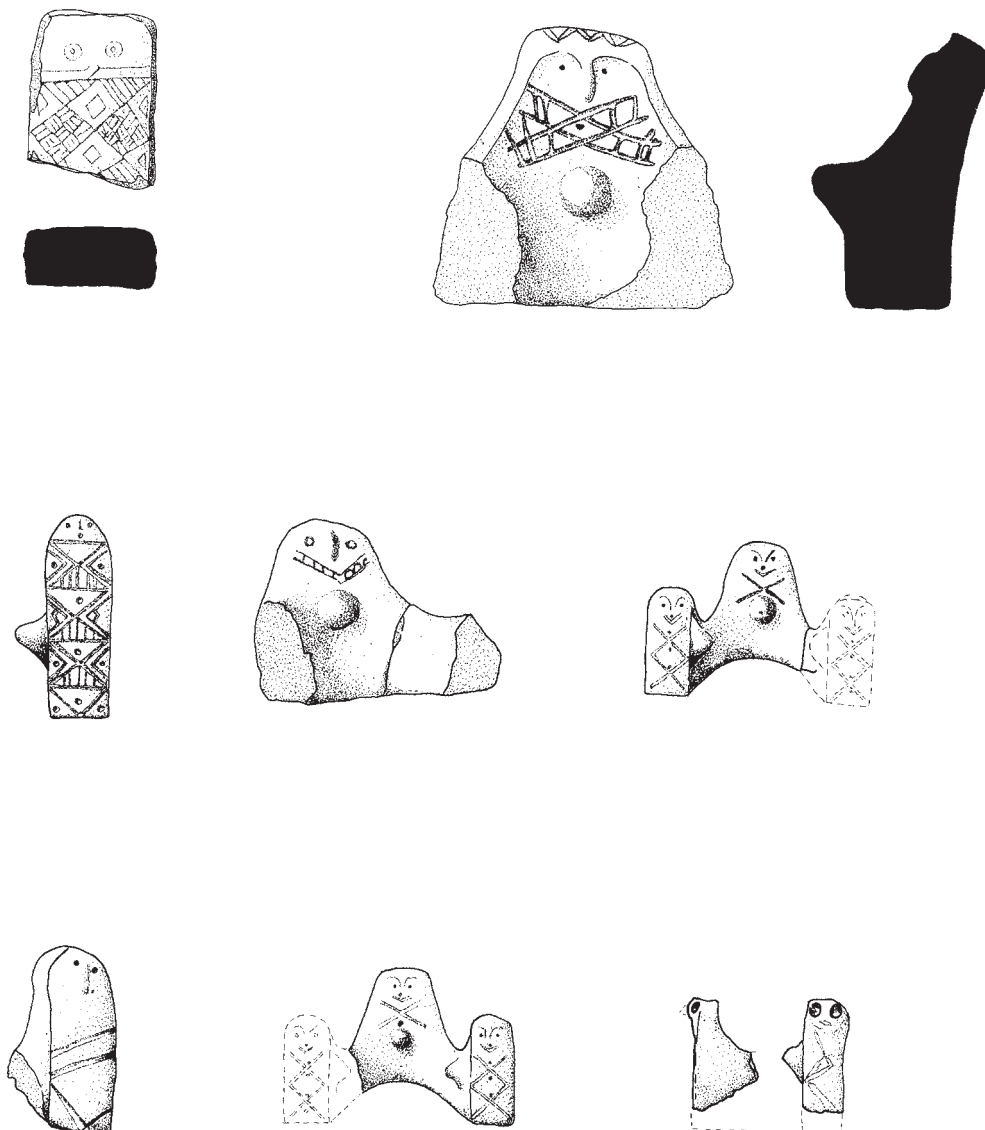


Fig. 8.

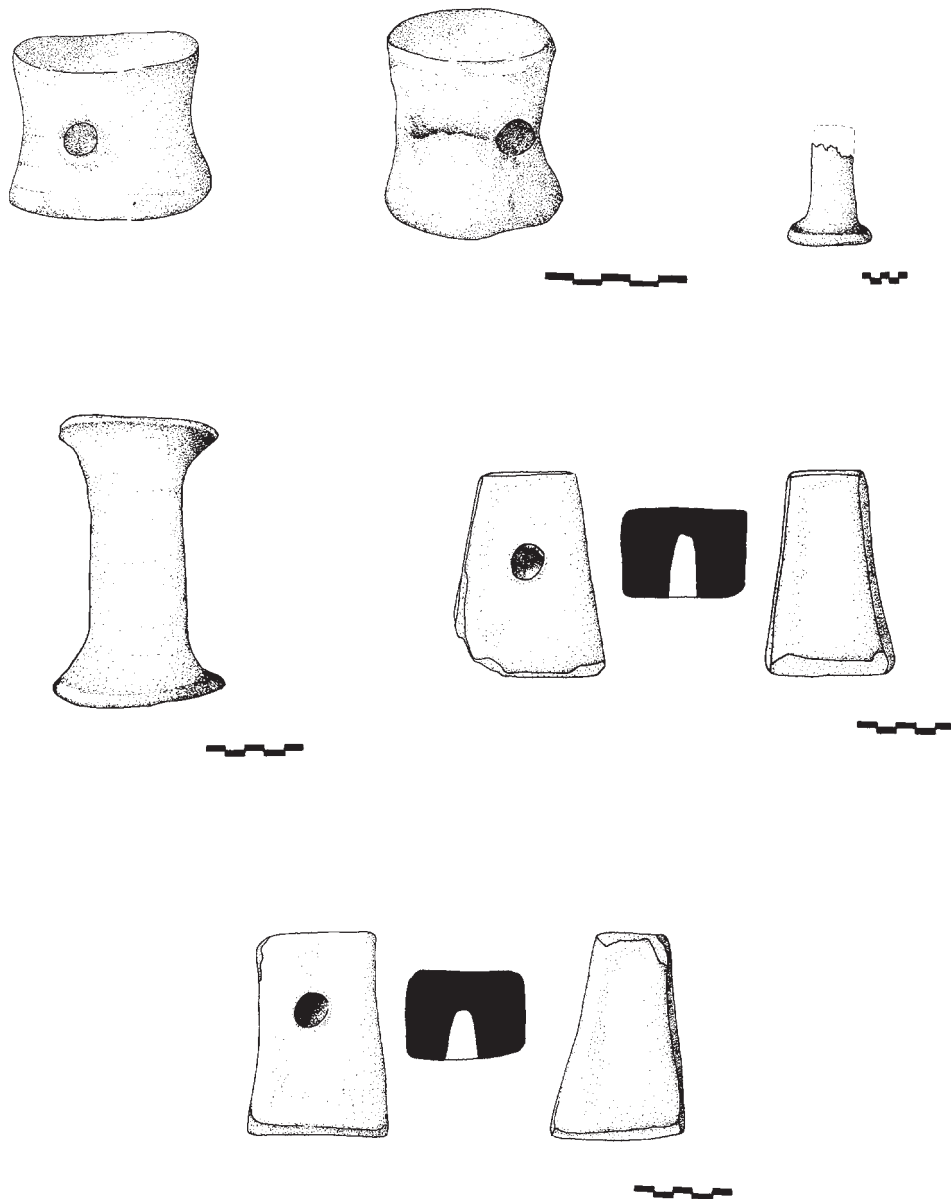


Fig. 9.

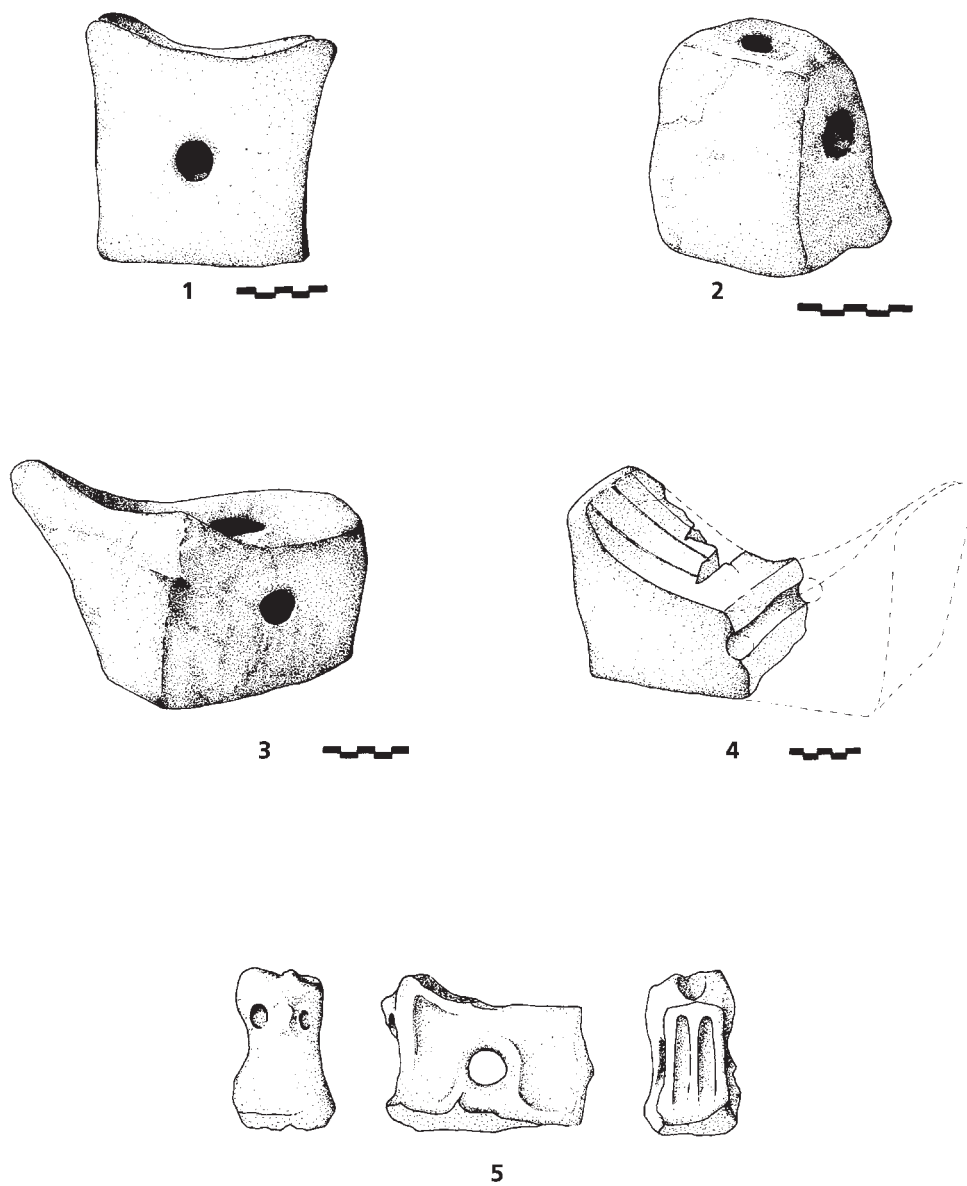


Fig. 10.

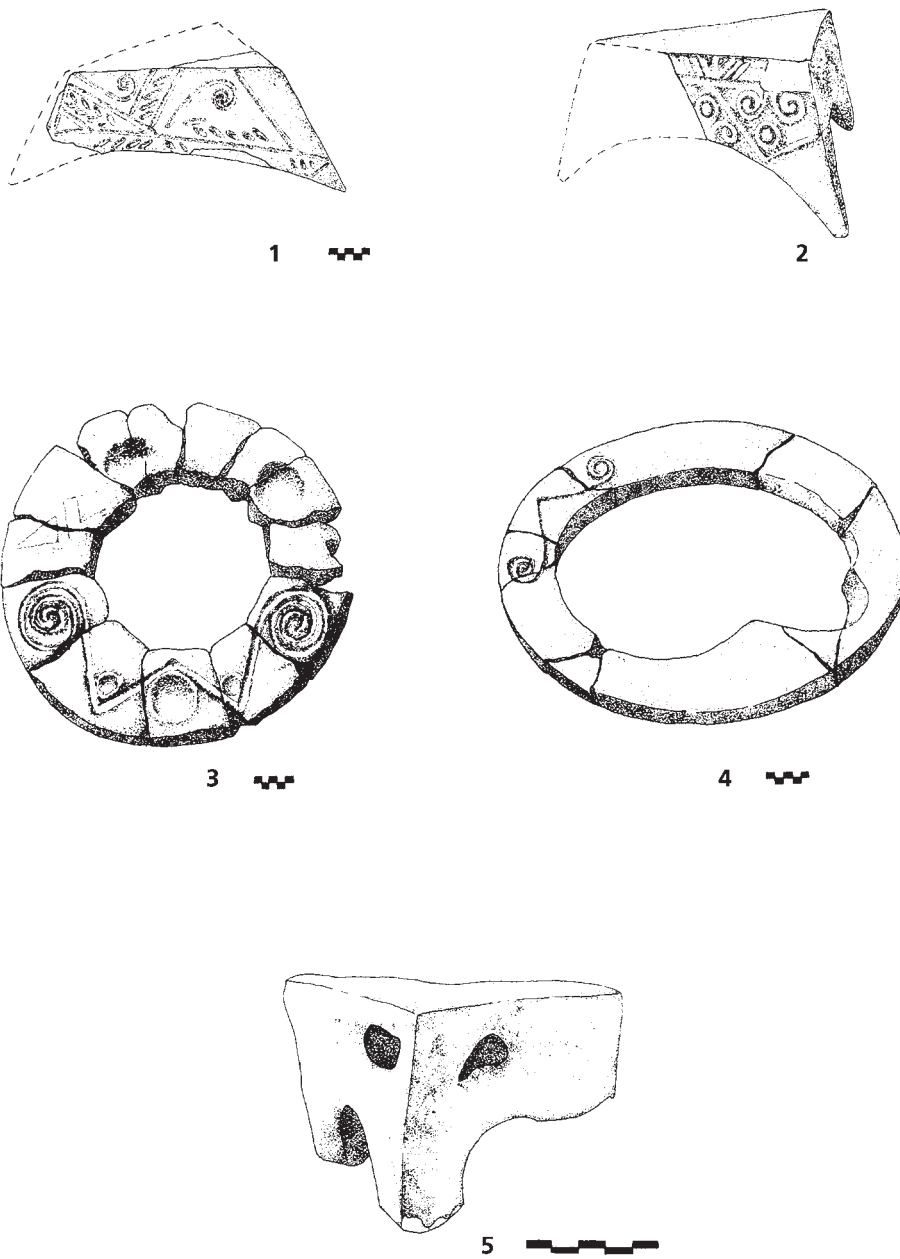


Fig. 11.

TELL SABI ABYAD II – A LATE PRE-POTTERY NEOLITHIC B VILLAGE IN NORTHERN SYRIA. Report on Architecture and Related Finds of the 2001 Campaign

Marc Verhoeven¹

INTRODUCTION

Tell Sabi Abyad II, located in the northern part of the Balikh valley in northern Syria, is a small and low, oval mound which measures about 123 x 76 m at its base and which rises about 4.5 m above the surface of the surrounding fields (Figs. 1 and 2). The site is part of a cluster of four prehistoric mounds (Tell Sabi Abyad I to IV), dating from the eighth to the sixth millennium BC. According to a series of radiocarbon dates, occupation at Tell Sabi Abyad II has to be dated between ca. 7550 and 6850 BC (Akkermans and Verhoeven 2000a).² Levels 8 to 2 represent what has been termed the Balikh I period in the local sequence (equaling the Late PPNB), whereas the topmost level 1 is part of the Balikh II period or early Pottery Neolithic.

In 2001 the earlier excavations at Tell Sabi Abyad II (see Verhoeven and Akkermans, eds., 2000) were continued in order to obtain an exposure as large as possible of one of the upper settlements in the mound, i.e. level 3, dated at ca. 7000-6850 BC. The present report is a detailed presentation of the stratigraphy, architecture and small finds of the 2001 campaign at Tell Sabi Abyad II. The report is largely descriptive; for a more interpretative account the reader is referred to Akkermans and Verhoeven 2000b. The flint and obsidian industries, animal bones and plant remains of the 2001 season have as yet not been analyzed in any detail, and apart from some preliminary comments on the flint and obsidian artefacts, these assemblages are not dealt with here.

STRATIGRAPHY AND ARCHITECTURE

The excavations at Tell Sabi Abyad II were conducted primarily in 9 x 9 m squares, designated from west to east with capital letters and from north to south with cardinal numbers (Fig. 2). The squares were separated from each other by section baulks one metre wide. In 1993, three 9 x 2 m trenches from the top of the tell down to the south were excavated in the west of squares H5, H6 and H7 in order to investigate the stratigraphic sequence of the mound. In 1996, 1999 and 2001, the areas of excavation

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² All dates mentioned are calibrated.

were enlarged. So far, the remains of prehistoric occupation have been unearthed in squares F5 to F8, G4 to G8, H4 to H6, and in trenches E7, H7, I5 and J5.

The stratigraphical sequence varies slightly from square to square, reflecting differences in the use of settlement space. Per square a number of strata and substrata were distinguished, each marked by consistent soil characteristics or coherent architectural features. These various strata have been regrouped into eight main phases or 'levels' of occupation. Virgin soil was reached at a depth of about two metres below the level of the surrounding fields in the six-metre deep trench H7. The levels emphasize the relationships between the various squares and they delineate coherent occupational phases. All levels have been numbered in order of excavation (i.e. from the top downwards), but will be discussed in order of accumulation.

Like the 1996 and 1999 campaigns, the 2001 fieldwork research concentrated on the level 3 village, and we succeeded in adding another 272 m² to the area of excavation. The 2001 areas of excavation consisted of squares F7, F8 and G8, the baulk between squares F7 and G7, part of the baulk between squares F7 and F8, a 10 x 1 m trench in the north of square E7, including a 1 x 1 m piece of baulk between squares E7 and F7 (called trench E7), two 1 m wide trenches in the north of squares I5 and J5 (called trenches I5 and J5), including the 1 x 1 m baulks between squares H5 and I5 and between squares I5 and J5. In total an area of approximately 812 m² has now been excavated. In 2001 deposits related to levels 4, 3 and 2 were excavated. In addition, an Iron Age pit and a possible burial dating from this period were recovered. The stratigraphic relations between the various strata in the 2001 areas of excavation have been indicated in Table 1.

Level 4

Stratigraphy

Level 4 represented the deepest level reached in the 2001 campaign. It has been excavated in trench E7 (stratum 3), squares F7 and G8 (strata 4D-4A), and trenches I5 and J5 (strata 4D-4A).

Stratum 3 in trench E7 was marked by an orange-brown/grey-spotted deposit with charcoal parts and lime spots. Its base has not been reached, but stratum 3 was at least 20 cm thick.

Stratum 4B in square F7 represented a block of very hard orange-brown loam with lime spots. Within this block, vague traces of thin grey layers may indicate that the block represented a *pisé* wall (see Fig. 5). Stratum 4A in square F7 designates debris related to the possible stratum 4B architecture. It was an up to 40 cm thick deposit of soft beige loam with lime spots and charcoal particles. Within this deposit some small, soft and ashy orange-brown deposits with charcoal parts were present.

In square G8 ovens M, N and Q and pit O marked stratum 4C. Stratum 4B was represented by the fill of these features. Stratum 4A was a thick (up to 50 cm) deposit of various debris layers which had accumulated above the stratum 4C architectural features. In the northeast, stratum 4A mainly consisted of a series of alternating 2 to 8 cm thick layers of hard orange-brown loam, divided by 2 to 8 cm thick layers of soft and ashy grey

loam. In the rest of the square stratum 4A consisted of quite hard orange-brown and chocolate-brown deposits with relatively large numbers of animal bones.

In trench I5 stratum 4D was an eastwards-sloping deposit, up to 40 cm thick, consisting of soft or hard beige/orange-brown spotted and orange-brown deposits, mostly with lime spots and charcoal particles. Strata 4C and 4B were represented by, respectively, pit L and its fill. Stratum 4A, covering pit L, was an up to 40 cm thick loamy deposit of chocolate-brown loam with orange-brown spots, charcoal particles and lime spots. This layer accumulated upon a series of hard orange-brown and beige deposits in the east of trench I5.

In trench J5 the earliest feature was the stratum 4C oven I, its fill represented stratum 4B. The uppermost level 4 deposit stratum 4A was a very thick (up to 80 cm) deposit, mainly consisting of a layer approximately 30 cm thick of orange-brown and chocolate-brown loam with many lime spots and charcoal particles.

Architecture

Level 4 architectural remains were scarce, and were mainly represented by three ovens, M, N and Q in the west of square G8. Oven M, disturbed in the west, was more or less circular, measuring 85 x 75 cm and preserved to a height of 8 cm. The oven was built of a 5 cm thick wall of orange-brown clay, and its 0.5 cm thick floor consisted of hard orange-brown clay, covered by a thin grey plaster. The fill of oven M consisted of soft grey-black ashes. Oven N, approximately 1 m to the east of oven M, was oval, measuring 1.15 x 0.60 m, and preserved to a height of 7 cm. Its hard orange-brown wall, about 2 cm thick, was only preserved in the west. The floor of the oven was covered with black-burnt stones. The fill of the oven was clearly secondary, consisting of soft beige loam. Directly northeast of oven N pit O was found. This circular pit, with a diameter of 45 cm and a depth of 12 cm, was filled with soft black ash, most likely indicating that it served as a receptacle for ashes from oven N. Oven Q was a small (90 x 35 cm) oval feature in the northwest of square G8. It had a 1.5 cm thick wall of orange-brown loam. At its southern end the interior of the oven was marked by a small (about 25 cm wide) raised platform of orange-brown clay. The oven was filled with soft grey ashes.

In trenches I5 and J5 level 4 was represented by pit L and oven I, respectively. Pit L, partly hidden in the north section of trench I5, measured at least 80 x 40 x 24 cm.³ It was filled with orange-brown loam and hard black (burnt) loam fragments. Oven I in the west of trench J5 represented a circular *tannur* of 50 x 40 cm. The wall, preserved to a height of 11 cm, consisted of a 5 cm thick orange-brown loam. The oven was filled with soft black ashes.

Level 3

As has been reported earlier (Verhoeven 2000a: 21), level 3 has three closely related building phases, and has therefore been divided in an early, a middle and a late phase (levels 3C, 3B and 3A respectively: Fig. 3). Level 3C architecture was present in

³ Dimensions of architectural features are indicated in the following order: length, width, depth/height.

the central squares (F5, G5, G6, H5, H6); level 3B buildings were only encountered in the south (trench H7, square F7, F8, G7, G8), whereas level 3A buildings were found in almost all areas. Generally speaking, the level 3 settlement seems to have grown from a central core, first expanding to the south and then to other areas as well. It is stressed here that these sublevels were closely related: taken together they represent *one* settlement which gradually expanded in the course of time. Whereas some buildings remained in use during the entire level 3 sequence, others were abandoned. Before dealing with the stratigraphy and architecture of the 2001 season in detail, it is convenient to give a general overview of the architecture.

All buildings (X, XIV, XV and XVI) were rectangular and consisted of small rectangular or more or less square rooms (see Figs. 4, 7 and 8). Buildings X and XIV were oriented NNW-SEE, but building XV was oriented NE-SW. Characteristic was the irregular appearance of the buildings, which were closely spaced. Area 1 of building XIV, with the centrally located oven AC, most likely represented a small open court. A large open area seems to have been present in square G8, given the almost total absence of level 3 architecture in this square.

The walls of the various buildings were generally 35 to 40 cm wide, and preserved to a height of about 50 cm. They were made of orange-brown, either crumbly or hard *pisé* slabs, most often intermingled with lime spots. The horizontal mortar between the slabs consisted of grey-brown loam, generally 1-2 cm thick. A vertical mortar could not be detected; it seems that the slabs were simply laid with their short ends against each other. In some instances the bases of the walls consisted of about 30 cm of compact loam upon which the *pisé* slabs had been laid. Most walls were bonded, but some abutted. The floors in the various buildings were very difficult to recognize, but it seems that they consisted simply of tamped loam. All buildings were simply founded on earth. Mud or lime plaster on the walls was observed in a few instances only.

Buttresses were often present on the corners of walls, or along the wall façades (Fig. 7). Almost all of them were found at a (much) lower level than the walls, suggesting that originally they were much lower as well. Although the walls of the various buildings were preserved to a height of about 50 cm, some (small) rooms gave no evidence of doorways. Most likely these chambers were accessible from an opening high up in the wall or, more likely, from the roof.

Two small benches or platforms in rooms 5 and 6 of building XV, oven AC in area 1 of building XIV (Fig. 7) and ovens AB and AC near building XV (Fig. 3) were the only domestic features directly (spatially) related to the level 3 buildings. The other architectural features were mainly pits and ovens around the level 3 buildings.

Level 3 has been exposed over an area of approximately 812 m², representing a large portion of Tell Sabi Abyad II (Fig. 3). In the south the edge of the tell has nearly been reached. In the west, parts of the level 3 village were disturbed by level 2 activities. In the east some more level 3 architecture is to be expected. In the north the tell slopes relatively steeply, and it is expected that most of the level 3 remains have been eroded here. We think that most of the level 3 village has been excavated and that Sabi Abyad II offers a representative view of the layout of a small Late PPNB village.

Level 3C

In order to check the continuation of the walls of level 3C buildings II, V and VIII, which were still hidden in the section baulks between squares G5 and G6 and H5 and H6, these baulks were excavated. It appeared that the reconstructions as indicated in figure 2.9 in the earlier monograph (Verhoeven 2000a) need some small adjustments. Room 1 of building VIII was not connected to building V, but was closed by a wall in the north. In the case of building II, what has been designated room 5 was originally divided into two rooms, now termed rooms 5 and 12, measuring 0.95 X 0.75 m and 1.45 x 0.75 m, respectively (Fig. 3).

Level 3B

Stratigraphy

Level 3B was encountered in squares F7, F8 and G8. In square F7 level 3 was not present in the western half of the square; here level 2 activities disturbed the level 3 architecture and related depositions. Stratum 3C in square F7 was represented by buildings X and XIV. Stratum 3B designates the first phase of debris accumulation in and around the level 3B architecture; it was an approximately 10-30 cm thick deposition of hard/crumblly orange-brown loam intermingled with lime spots.

In square F8 stratum 3F was represented by building XV and the related oven AC. As in square F7, stratum 3E, not present in the northeastern quadrant due to level 2 activities, marks the first phase of debris accumulation in and around the level 3B architecture. It was an approximately 10-30 cm thick deposition of hard/crumblly orange-brown loam intermingled with lime spots.

In square G8 stratum 3E was marked by remnants of room 6 of building XII (which was mainly located in square G7), and room 10 of building XV (mainly located in square F8). Stratum 3D presented the first debris deposition around the level 3B architecture. In the northwest this deposit consisted of an approximately 20 cm thick accumulation of 2-10 cm thick soft and ashy grey, blue-grey and green-grey layers. In other parts of the square level 3D, up to 40 cm thick, consisted of crumblly orange-brown loam and soft beige loam, intermingled with lime spots.

Architecture

The level 3B architecture was represented by buildings X and XIV in square F7, building XV in square F8, and the southern part of room 6 of building XII (Figs. 3, 7 and 8).

Building X, oriented NNW-SEE, was disturbed by level 2 activities in the west and is still partly unexcavated in the north, but it measured at least 6 x 3.25 m. The dimensions of the various rooms are given in Table 2. As appears from the table, all rooms were extremely small, and can only have been used for storage. Room 6 could be entered via room 3 by a 65 cm wide doorway. Rooms 2, 4 and 8 were also connected by doorways. The opening between rooms 2 and 4, marked by a small buttress, was 55 cm wide. The opening between rooms 4 and 8 was very narrow, being only 30 cm wide.

Rooms 5 and 7 showed no entrances at floor level, and were probably accessible from the roof only. No architectural features were encountered in building X.

Building XIV was connected to buildings X and XI, and was, like building X, disturbed in the west due to level 2 activities. The building measured at least 6 x 5 m and consisted of at least 5 rooms (Table 3). Like building X it was oriented NNW-SEE.

Area 1 was a relatively large space (at least 4.30 x 3.25 m), in fact (together with rooms 1, 2 and 3 of building XI and possibly room 2 of building XV) among the largest areas in the level 3 settlement. Given the difficulty of constructing a roof over such a large area and the presence of an oven (AC), area 1 was an open area or a small court. Oven AC, centrally located in area 1, was special in that it represented the first square oven at Tell Sabi Abyad II. The oven measured 1 x 1 m and was preserved to a height of 13 cm. The wall of the oven consisted of a 10 cm thick orange-brown loam. On the interior of this wall fragments of a 2 cm thick dark-brown and burnt clay were present. The floor of the oven was made of an approximately 0.5 cm thick hard grey plaster. The oven was filled with soft grey and black ashes. No other architectural features were encountered in building XIV. Unlike building X, all rooms in building XIV were connected by doorways. The wide (1 m) opening to room 2 was marked by a small buttress in the south. Room 3 seems to be a corridor, connecting areas 1 and 2 with rooms 4 and 5. Room 4 was linked to room 3 by a 40 cm wide opening. In the east of rooms 2 and 5 we found a relatively large quantity of animal bones (possibly aurochs), perhaps indicating butchering activities. Objects which were found on the floor of room 4 (two fragments of grinding slabs and a rubbing stone) may point to food processing and possibly to the manufacture/maintenance of stone, bone or clay artefacts, or skin processing. Connected to the southern wall of area 1 were two wall fragments which must have been part of a (small) room which was disturbed, probably due to level 3A activities.

Building XV, still partly unexcavated in the south, measured at least 10.50 x 8.50 m (Fig. 8). Unlike buildings X and XIV it was oriented NW-SE. The building consisted of at least 11 rooms (Table 4). As was indicated above, room 11 represented a level 3A addition to building XV.

Like buildings X and XIV, the northwest of building XV was disturbed by level 2 activities. Moreover, the various walls in the west were very badly preserved (to a few centimetres only) and difficult to recognize. Therefore, it cannot be excluded that the relatively large area represented by room 2 originally consisted of more, smaller, rooms. The L-shaped wall and related features (level 3A oven AB), located between buildings XIV and XV, seem to have been part of a structure which was partly destroyed due to level 3A activities. The peculiar situation, i.e. the 'mismatch' of the two walls in which oven AB was sunk with regard to the wall fragments to the south of area 1 of building XIV, remains enigmatic. As can be seen in figure 3, building XV was marked by quite a number of buttresses. All of these buttresses appeared well below the top level of the walls, strongly suggesting that originally they were much lower than the walls of building XV. Rooms 5 and 6 were marked by architectural features, i.e. a small platform or bench (50 x 25 cm) and a narrow bench (1.00 x 0.20 m), respectively. The other rooms were without features. North of room 10, however, an oval oven, AC, was encountered. Oven AC measured 1.00 x 0.30 m and was preserved to a height of 7 cm. The wall of the oven

consisted of a hard-burnt (red) loam. The oven was filled with soft beige loam, clearly secondary to its use.

Building XV differed in a number of respects from the neighbouring level 3 architecture found in the 2001 season. First, it was oriented differently. Second, building XV was marked by a relatively large number of relatively large rooms when compared to the other buildings. Third, it gave evidence of small interior platforms/benches. Fourth, different building material was used: in building XV the pisé slabs were 5-6 cm thick, and divided by a 1-2 cm thick grey mortar, while the other buildings were constructed of about 7 cm thick slabs, divided by a 2 cm thick brown/orange-brown mortar. Perhaps these differences indicate that building XV had a function that was different from the other buildings. The relatively large size of the rooms and the platforms/benches may indicate that it was used for domestic purposes, rather than for storage: perhaps it largely served as a dwelling. The remarkable change in orientation, when compared with neighbouring buildings X to XIV, might then be explained as a deliberate attempt at differentiating building XV as a dwelling from the other structures which perhaps largely served for storage.

In square G8 the southern part of a small room (no. 6) related to the earlier excavated building XII in square G7 was uncovered. Room 6, largely hidden in the section baulk between squares G7 and G8, measured at least 80 x 50 cm. Apart from this room and the northeastern corner of room 10 of building XV, no architectural features can be ascribed to level 3B in square G8. Consequently, east of building XV, and south of buildings XI and XII a quite large (at least 81 m²) open area was present in the southern part of the level 3 settlement (Fig. 3).

Level 3A

Stratigraphy

In squares F7, F8 and G8 level 3A was represented by a renovation of building XV and by a series of ovens, hearths and pits and related deposits. The ovens, hearths and pits seem to be later than the mentioned renovation, and were probably constructed when the level 3B buildings were already out of use. In trenches I5 and J5, where level 3B architecture was absent, level 3A was mainly represented by building XVI in trench I5, a wall in trench J5 and some pits in both trenches.

Stratum 3A in square F7 designates the upper fill related to the level 3B architecture. It is recalled that stratum 3B of level 3B represented the first phase of accumulation in and around level 3B buildings; stratum 3A, then, was the second main period of deposition, marking debris which accumulated when the level 3B buildings had already been abandoned. On the whole, level 3A was a 12-30 cm thick orange-brown and crumbly deposit with lime spots, and occasionally with brown loam spots.

Stratum 3D in square F8 was represented by room 11 of building XV. Debris accumulation on the floor level related to level 3B building XV clearly indicates that this room was later added to building XV. Pits AK and AQ and oven AB represent stratum 3C, and stratum 3B marks the fill of these features. Stratum 3A was similar to stratum 3A in square F7 (see above).

In square G8 stratum 3C was represented by a number of architectural features: pits B and I, hearth A and oven P. The fill of these various features represented stratum 3B. In the north and west, stratum 3A, covering the sparse level 3B architecture, was up to 34 cm thick and made up of several beige, grey and orange-brown layers, intermingled with lime spots and charcoal particles. In the east and south, stratum 3A, approximately 40 cm thick, consisted of three soft beige deposits with lime spots.

In trenches I5 and J5 strata 3F to 3A represented level 3A. Stratum 3F in trench I5 was represented by building XVI and the small platform upon which it was built. Stratum 3E, the first phase of level 3A debris accumulation and deposited against the above-mentioned platform (see Fig. 6), was 20-40 cm thick. Stratum 3E debris accumulation started with three soft orange-brown deposits with charcoal particles and lime spots. These depositions were followed by orange-brown, beige and grey-beige deposits, each with charcoal particles and lime spots. Stratum 3D was represented by two pits, features J and K, whereas stratum C marks their fill. Stratum 3B presented debris accumulation in and around building XVI. In the west of trench I5 stratum 3B was a 10-30 cm thick accumulation of alternating layers of soft and thin (2-6 cm thick) orange-brown and grey ashy layers. These layers, sloping to the east, were found over a length of approximately 1.60 m. East of these layers and against the western wall of building XVI an approximately 20 cm thick layer of beige-grey loam was followed by a 10-20 cm thick deposit of beige brown loam. Both layers show charcoal particles and lime spots. Inside building XVI stratum 3B was marked by a hard orange-brown loam. Stratum 3A represented the uppermost level 3A deposit. In the west of trench I5 stratum 3A was an approximately 30 cm thick accumulation of alternating layers of soft and thin (2-6 cm thick) orange-brown and grey ashy layers, as in stratum 3B. These deposits had accumulated against wall BA of level 3A building VII in square H5 (see Figs. 3 and 6). These layers, sloping to the east, were found over a length of about 1.60 m. East of these thin layers stratum 3A mainly consisted of a deposit of approximately 10-30 cm thick layers of grey and beige loam, either soft or hard. Inside building XVI stratum 3A was represented by a 10-20 cm thick deposit of orange-brown crumbly loam with lime spots.

In trench J5 stratum 3F was represented by wall B. Stratum 3E was the first phase of debris accumulation related to level 3A. It consisted of an approximately 40-60 cm thick deposit of grey, beige and orange-brown debris layers, mostly with lime spots, some with charcoal particles. Most of the layers were soft or crumbly. Especially east of wall B the deposits were soft and ashy. Stratum 3D presented pit H, and stratum 3C the fill of this feature. A soft beige deposit, approximately 5-20 cm thick, with lime spots, has been designated stratum 3B. Stratum 3A, only present in the west due to erosion in the east, was an about 10 cm thick soft beige/orange-brown layer intermingled with lime spots.

Architecture

Level 3A architecture was represented by room 11 of building XV, building XVI in trench I5, and pits and ovens in other areas. The level 3B buildings seem to have remained in use in level 3A times, but were like all other level 3 features gradually abandoned and destroyed and/or covered by level 2 deposits.

In the east of trench J5 the remains of a single wall (B), at least 1 m long and oriented N-S, were encountered. Room 11 of building XV, measuring 3.25 x 2.75 m, was erected in an open area northeast of the building. The walls of this room, marked by small buttresses in the north and west, were nowhere connected to the main building. When compared to the other rooms of building XV, room 11 was relatively open and large, suggesting that it served for activities rather than storage.

Building XVI in trench I5 was only exposed to a limited extent. It measured at least 2 x 1 m, and its two rooms had minimal dimensions of 60 x 75 cm. Like the level 3A buildings I and VII in square H5, immediately west of trench I5, building XVI was oriented NNW-SSE. Interestingly, building XVI was erected on a small platform, 60 cm high and minimally 2.60 x 1m. The platform was made of a very hard orange-brown loam. In both rooms 1 and 2 the floors consisted of square (25 x 25 cm) and unbaked orange-brown mud bricks, divided by a 3-5 cm thick grey-brown mortar. On the floor of room 1 three objects were found: two fragments of stone vessels, one of them representing a large and beautiful stone bowl (Fig. 9, no. 1), and a palette.

It is recalled (Verhoeven 2000a: 29, 33, 40-41) that three other platforms, all of a different nature, were excavated earlier in the level 3 settlement. First, level 3C platform O in square F5 was a long-drawn feature (5.30x1.30 m) made of rectangular orange-brown pisé slabs measuring 1 x 0.30/0.40 x 0.08 m. Second, level 3B building VI in trench H7 was, like building XVI, erected upon a small (about 4.5 x 2 m) platform. This feature was made of slabs of grey loam, which were approximately 25 cm wide and 25 to 100 cm long. Finally, the large (at least 9.80 x 6.75 m) platform A in square H4 was built of alternating layers of large grey and orange-brown pisé slabs, 0.75 to 1.35 m long, and 30 to 40 cm wide. In the south and west the platform was surrounded by a stone wall. Platform A was found directly beneath the topsoil, and it cannot be excluded that it served as the base of a now wholly eroded building. Its situation at the top of the tell, its large dimensions and the careful construction of platform A may indicate that this building was of a special (ritual?) nature. Thus it seems that different kinds of platforms were used for different purposes: as bases for activities (platform O), and as bases for (special?) buildings.

In square F8 oven AB and pits AK and AQ have been ascribed to level 3A. Oven AB was sunk into two closely attached level 3B walls in the north of square F8 (Fig. 3), raising the oven about 30 cm above floor level. Probably the two walls served as a sort of platform. Oven AB represented a circular *tannur* with a diameter of 50 cm. The hard and red-burnt clay wall of the oven was preserved to a height of 11 cm; the floor consisted of hard black-burnt loam. The oven was filled with soft black ashes. Pit AK in the south of square F8, had a diameter of about 50 cm, and a depth of about 10 cm. It was filled with soft grey ash, containing some animal bones. Pit AQ, still partly hidden in the south section, measured at least 40 x 30 x 12 cm, and was filled with soft beige loam.

In square G8 pits B and I, hearth A and oven B were the architectural features representing level 3A. Hearth A in the northwest of square G8 was circular with a diameter of 50 cm and a depth of 12 cm. It had burnt stones at the base, and was filled with soft grey ash. Oven P was found in the east of square G8, and is still partly hidden in the east section. It measured at least 60 x 30 cm and showed a 5 cm thick wall of hard

orange-brown clay. The circular pit B, in the northwest of the square, had a diameter of 40 cm and a depth of 12 cm. The feature showed a 1 cm thick dark-brown mud-plaster lining, and a floor of hard white lime plaster, 1 to 2 mm thick. Pit I, along the west section in the southwest of square G8, was kidney-shaped, measuring 70 x 13 X 12 cm.

In trenches I5 and J5 pits J, K and H, all partly hidden in the north sections, were excavated. Pits J and K in trench J5 measured at least 30 x 30 x 20 cm and 60 x 40 x 24 cm, respectively. Pit J was filled with hard beige-grey loam with many stones, charcoal particles and lime spots. The fill of pit K consisted of soft grey-black ash, intermingled with burnt orange-brown loam. Pit H in trench J5 was a large pit, measuring at least 4.60 x 1 x 1.20 m (Fig. 6). The pit was filled with several layers of soft beige and grey loam, with ashes, charcoal particles and lime spots. Relatively few finds were recovered from this large pit.

Level 2

Stratigraphy

Level 2 has been encountered in all areas of excavation. It is recalled that in squares F7 and F8 the western parts of level 3B buildings appear to have been destroyed by level 2 activities.

In trench E7 level 2 was represented by strata 2D to 2A and strata 1C to 1A. In the east of trench E7, stratum 2D accumulated upon level deposit stratum 3; most likely level 3 was disturbed due to level 2 activities. The base of stratum 2D has not been exposed, but the deposit was at least 50 cm thick. The stratum, slightly sloping to the west, consisted of a series of soft and ashy, grey and beige layers, mostly intermingled with lime spots. Stratum 2C was represented by pit C in the east of trench E7, stratum 2B was the fill of this pit. Stratum 2A was a 40 to 60 cm thick accumulation of debris layers of mainly soft and crumbly deposits intermingled with lime spots and gently sloping to the west. Two architectural features, wall D and oven A, represented stratum 1C, and the fill of oven A was marked stratum 1B. Stratum 1A had accumulated around wall D and oven A, and represented a 10-30 cm thick hard beige-grey deposit with lime spots, charcoal particles and many stones. These stones, measuring about 10 x 10 cm, were grey and angular, and many showed traces of burning, perhaps indicating that they had been used as cooking stones. In fact, all over the tell large numbers of such stones were recovered from level 2, suggesting that cooking with stones was a regular activity.

In square F7 stratum 2B was the first of the level 2 layers. The deposit, sloping towards the west (Fig. 5) was up to 80 cm thick and consisted of an approximately 10 cm thick soft grey and orange-brown layer upon which a series of grey and beige ashy layers with lime spots and many charcoal particles had accumulated. Moreover, thin grey and black ash layers were present. Stratum 2A presented a thick (up to 60 cm) accumulation of soft and crumbly grey-beige debris layers in the west of the square. Pit I and pit J marked stratum 1C, and their fill has been designated stratum 1B. In the east of square F7 the topmost stratum 1A covered the level 3B architecture (buildings X and XIV). Here the deposit consisted of an approximately 20 cm thick crumbly orange-brown deposit with lime spots, probably representing upper wall debris of the level 3B buildings, followed by

an about 20 cm thick layer of hard beige-grey loam. In the west of square F7 stratum 1A, about 40 cm thick, was represented by soft grey and ashy deposits, covered by a hard grey layer with many stones (see above).

In square F8 level 2 was mainly represented by a series of pits. Strata 2C and 2B designate pit AR and its fill. Stratum 2A was an at least 60 cm thick deposit (its base has not been reached) in the northwest quadrant of square F8, consisting of various beige and grey, soft and ashy layers, sloping to the west, with lime spots and charcoal particles. Stratum 1 presented pits AL, AM, AN, AN, AO and AP and their fill. These pits were all dug from an eroded level 2 floor level, and all are still partly hidden in the west and east sections of square F8.

The large pit AL which was encountered in square F8 (see above) continues in square G8, where it also marked stratum 1. Stratum 2 in square G8 was an approximately 10 cm thick deposit of grey and orange-brown loam with lime spots.

In trench I5 level 2 was designated by strata 2 and 1. Stratum 2, covering the level 3A deposits, was an approximately 40 cm thick deposition consisting of beige and orange-brown layers with lime spots, gently sloping towards the east and covered by a layer of soft beige loam. Stratum 1 presented pit I and its fill. This pit was dug from an eroded level 2 floor level.

In trench J5, at last, level 2 was represented by a 10-20 cm thick soft beige deposit.

Architecture

Apart from wall D and oven A in trench E7, level 2 was represented by pits (n = 9). Wall D in the west of trench E7 and still partly hidden in the north section was a feature at least 1 m long of hard crumbly grey-beige clay. Oven A, located about 4.50 m to the east of this wall, was a circular tannur of approximately 50 x 30 cm, preserved to a height of 14 cm. The wall of the oven was 2 cm thick and consisted of a 2 cm hard orange-brown clay, covered on the interior with a 2 mm thick black-burnt lime plaster, which also covered the floor. Upon the floor burnt pebbles and cobbles were found. The fill of the oven was marked by soft black ashes, among which the fragments of three figurines were found.

The location, stratum assignment, shape, dimensions and fill (excluding artefacts) of the various level 2 pits are presented in Table 5.

Iron Age

Stratigraphy

On the basis of sherds pit J in trench J5 has been dated to the 7th-6th century B.C., i.e. to the Iron Age. This pit and its fill, dug from an eroded floor level, were represented by stratum 1. In square F7 a human burial may also date from the Iron Age, suggested by the find of an iron dagger in the grave. A (much) later date, however, cannot be excluded.

Pit

In the east of trench J5, pit J, still partly hidden in the north section, measured at least 1.20 x 0.60 x 40 cm. Pit J was filled with soft beige loam with lime spots, and, as indicated above, Iron Age sherds.

Burial

Largely hidden in the extreme north of the section between squares F7 and G7, a human burial to be dated to the Iron Age or later (see above) was found. The skeleton was recovered from an unlined pit of 1.90 x 0.70 x 0.65 m. At the base of this pit the 1.65 m long articulated skeleton of an adult - probably male - was found. The person had been positioned on his back, and was oriented NW-SE, the head in the west, facing south. The left arm was flexed across the chest, the right arm was extended along the body. Of the legs the right one was flexed, the left one extended. Next to the right hand (and most likely originally placed into it) were two burial gifts: an 11 cm long whetstone with a little hole at one end, which probably served for suspension on a rope, and fragments of an iron dagger.

THE SMALL FINDS

In Table 6 the quantities of the various categories of small finds have been indicated, including the total amount, i.e. the number of the 2001 small finds together with those of the earlier excavations (Verhoeven 2000b). In Tables 7, 8 and 9 the raw material, the dimensions of complete objects and stone sorts are indicated respectively.

A total number of 127 small finds was recovered from the various areas of excavation in 2001. The majority of the finds were small fragments of various stone vessels. Rubbing/polishing stones, grinding slabs and grinders were also well represented. The other objects were present in small quantities.

Most items (around 81%) were made of stone but clay was commonly used as well, accounting for about 13% of the objects. Artefacts made of bone and of lime (white ware) were found in small quantities (Table 6). Most of the objects (85 %) were broken and probably discarded as refuse. The remaining complete objects may have been left behind at abandonment because there was no further use for them, or perhaps they were simply lost.

The small finds as presented in the following sections have been ascribed to a number of categories and subcategories, viz. the ground-stone industry (grinding slabs, grinders, hammer stones, celts, stone vessels), miscellaneous stone tools, beads and pendants, figurines (anthropomorphic and zoomorphic), tokens, white ware, and bone tools.

The Ground-Stone Industry

The ground-stone assemblage of Sabi Abyad II recovered in 2001 consisted of grinding slabs, grinders, a mortar, hammer-stones, celts, and stone vessels. These stone

implements represent the majority of the small finds (n= 74, or 58.3% of the assemblage). Apart from the hammer-stones almost all ground-stone tools were broken. Most of the artefacts, especially the grinding slabs and grinders, were made of grey-black basalt, especially of the vesicular type. Limestone and gypsum were commonly used as well, in particular for the stone vessels. The other, mainly non-indigenous, stone sorts were used more sparsely (Table 9). These exotic stones, including basalt, must have been obtained outside the Balikh valley, from the Euphrates valley or the Turkish piedmont.

Grinding slabs⁴

Eleven grinding slab fragments were recovered, all of them made of vesicular basalt. The shape of the fragments indicates that the slabs had an oval shape, a flat working surface and a concave base. The working surface was almost always polished due to use, but polish on the other side indicates (secondary?) use as well. One fragment had traces of red-brown material, perhaps ochre.

Grinders

Earlier (Verhoeven 2000b: 94) it was reported that three types of grinders were used at Sabi Abyad II: Type 1 grinders are rather large, oval, rounded or loaf-shaped tools, which closely resemble the grinding slabs in shape but not in size (generally, the grinders are much smaller). Most likely, these type 1 grinders were used in combination with the grinding slabs. Type 2 grinders are rather small, flat and more or less rectangular tools. Often, type 2 grinders are made of a very porous basalt, with 'spongy' but rough surfaces. Type 3 grinders had a shape which was either squat and rounded or more or less square with rounded edges. In 2001 at least three type 2 grinders, including one complete specimen (Table 8), were found. These small tools all showed the spongy surface just mentioned. It is assumed that the majority of the other grinders belong to type 1, but due to the high degree of fragmentation, a reliable typological assignment of the grinders is not possible. Polish occurs on flat as well as on convex sides. Traces of red pigment, perhaps ochre, on one specimen may indicate that it was used for grinding pigments, or perhaps for rubbing pigments on hides or cloth. Traces of lime or gypsum on another fragment suggest that grinders were also used for applying plaster on walls or for the production of white ware.

Mortar

A smooth and fine-grained fragment of basalt represented a shallow mortar with a thick (2 cm) base and a rounded rim. This is the only example of a mortar at Sabi Abyad II. Pestles were wholly absent. Apparently grinding was almost totally done with grinders and grinding slabs. In contrast, grinding in the Pottery Neolithic levels at nearby Tell Sabi Abyad I was done with mortars and pestles as well as with grinders and grinding slabs (Collet and Spoor 1996: 416-422).

⁴ Due to the high degree of fragmentation, it was in many cases not possible to distinguish between grinding slabs or grinders; the following discussion of both classes of tools is based upon the clear examples only.

Hammer-stones

Of the three hammer-stones two were made of flint and more or less cubical in shape. One of these objects (S01-89) had traces of red pigment, most likely ochre, indicating that - like grinding slabs and grinders - it was involved in the production and/or application of pigments. The third hammer-stone was more or less spherical and smaller than the others (Table 8). All hammer-stones showed battered areas.

Celts

Two complete celts and two fragments of celts were found. The complete specimens were both made of blue-black dolorite. One of these objects was very small (4.8 x 2.0 x 1.6 cm); the other measured 8.4 x 3.6 x 1.7 cm (Fig. 10, nos. 7 and 8). The larger celt had a sharp cutting edge and battered sides, suggesting that besides cutting it was also used for grinding, hammering or polishing. The small celt was well polished on all sides. The two fragments represent the base of a celt made of gabbro and the wedge-shaped cutting edge of an unidentified fine-grained blue-green stone. Both fragments were polished due to use.

Stone vessels

Stone vessels represented the most numerous category of small finds (n= 26, 20.5 % of the assemblage). All vessels were made of either limestone, alabaster or gypsum, varying in colour from white to pink, beige, brown and grey. In all cases, the exterior of the vessels was smoothed and polished. In contrast, the interior was often somewhat rougher and marked by scratches, probably resulting from the manufacturing process. Four main types of stone vessels can be distinguished (see also Verhoeven 2000b: 95):

Type 1: open bowls. These vessels are marked by rounded vessel walls and simple rounded or pointed rims.

Type 2: closed bowls. These vessels are characterized by straight or rounded, (slightly) incurving walls and simple plain rims.

Type 3: wide open bowls. Type 3 vessels represent low and wide, open bowls or plates with plain rounded or flat rims.

Type 4: miniature bowls. As yet, type 4 is represented by one fragment of a very small bowl with three feet.

As in earlier campaigns, the stone vessels found in 2001 were represented by small fragments only: complete specimens have not been uncovered as yet. Only six rim fragments were found. As indicated on figure 9, fragment numbers 2, 3, 4 and 5 represent type 1; number 6 type 2; number 1 type 3, and number 7 type 4. The type 3 bowl was made of a white alabaster which was marked by thin orange bands. This is an outstanding example of the regular practice of making use of the characteristics of stones for decorative effect of stone vessels.

The type 4 miniature bowl was not attested prior to 2001. It is represented by a very carefully made vessel of dark-grey limestone. Only half of the bowl was preserved, but originally it must have had a diameter of 4 cm, and it stood to a height of 1.6 cm on three little feet. The vessel had a sharp carination near the base and was marked by a

small rim. Perhaps such miniature bowls were used as containers for medicines or cosmetics.

In the Balikh valley vessels similar to those of Sabi Abyad II have been found at the Late PPNB sites Tell Assouad (Level VIII) and Tell Damishliyya (stratum 2) (Cauvin 1972, figs. 1, 3 and 4; Akkermans 1988, plate 10). Outside of the Balikh valley similar vessels have been reported from Late PPNB Bouqras at the confluence of the Euphrates and the Khabur (Roodenberg 1986: 138-157).

Miscellaneous Stone Tools

Rubbing/polishing stones. Quite a number (n= 17) of smooth, unworked pebbles of fine-grained stone (mainly sandstone and limestone) were found. They may have been used for the rubbing and polishing of all kinds of commodities. Black pigment on one fragment and red pigment on another suggest that rubbing/polishing stones were used for pulverizing and applying pigments. More generally, polished and battered areas and scratches seem to indicate that these objects were used for grinding, rubbing and polishing.

Retouchoirs. It is suggested that two longitudinal objects made of fine-grained stone (gabbro and dolorite) were used as retouchoirs, given the presence of traces of battering and scratches at their short ends (Fig. 10, nos. 9 and 10). The complete cylindrical specimen measures 11.7 x 3.2 x 2.7 cm. The other object, only partially preserved, was flattened in section.

Palette. One unworked pebble of brown limestone (11.2 x 7.1 x 3.1 cm) with a central depression may have been used as a palette.

Weight. A biconically pierced and smooth fragment of basalt perhaps represents a weight (Fig. 10, no. 13). The perforation was very smooth, presumably as a result of regular use. The reconstructed diameter is 11.8 cm. A similar object, but made of flint, was recovered earlier at Sabi Abyad II (Verhoeven 2000b: Fig. 4.6, no. 6).

Bead and pendant

Items of personal decoration were represented by a small (diam.: 0.2 cm) and flat disc-shaped bead made of green stone (Fig. 10, no. 6), and possibly by a polished irregular fragment of quartzite.

Figurines

The remains of 12 small figurines were found: two anthropomorphic figurines, one of which was nearly complete, three fragments of zoomorphic statuettes, four possible fragments of human figurines, and three irregularly shaped small pieces of smooth clay which might depict either humans or animals.

Anthropomorphic figurines

Most interesting was the find of a very stylized human head made of soft white limestone (Fig. 10, no. 4). The head was found in an open area ascribed to level 2. Due to

excavation, the neck was artificially shortened and flattened. The somewhat oval head measured 2.6 x 1.6 x 2.0 cm. The eyes, indicated by two shallow holes, were the only facial features that had been rendered. Two similar heads have been found earlier at Sabi Abyad II (Verhoeven 2000b: 100). Furthermore, they were recovered from PPNB Tell Assouad, also located in the northern part of the Balikh valley (J. Cauvin 1972, Fig. 4, no. 6), and from PPNB Gürcütepe in the Harran plain (Schmidt 1998). These figurines have as yet not been reported from sites in other regions, and therefore seem to have been a characteristic of the Balikh valley and its continuation into the plain of Harran. Earlier (Verhoeven 2000b: 100) I have suggested that these heads were originally fastened to another body of clay or wood, as they cannot stand by themselves. Perhaps, however, the heads were meant to be isolated features, and they may have played a role in the so-called PPNB skull cult, marked by the deliberate isolation, and sometimes decoration, of human skulls of perhaps important ancestors (Bienert 1991; Verhoeven 2002a).

The other human figurine, like the above figurine recovered from an open area in level 2, is reminiscent of another type of statuette that was found earlier (Verhoeven 2000b: Fig. 4.9, no. 4). This 3.2 x 2.7 x 3.1 cm clay fragment, with the head and legs missing, seems to represent a woman, as a small depression between the legs probably indicates a pubic triangle. She was sitting on her buttocks, which were clearly indicated (Fig. 10, no. 2). The arms were not indicated. The lower back was marked by irregular scratches.

The four *possible* human figurine fragments, all without heads, were marked by flat bases and cylindrical (Fig. 10, no. 3) or conical bodies. One of these fragments (F01-11) was made of a grey limestone, the others of unbaked clay.

Zoomorphic figurines

The animal figurines consisted of three small representations of bulls in clay. The clearest example was a large fragment showing the body and the legs of a bull. Attention for detail is witnessed by the testicles and the spine which were clearly indicated (Fig. 10, no. 1). Another, much smaller, fragment represented part of a bull's neck and head, with two broken-off horns. The third piece was a fragment of a curved horn. Such small horns were also recovered in earlier campaigns at Sabi Abyad II (Verhoeven 2000b: 101). A match for the horns at Sabi Abyad II is perhaps found at Assouad, level VIII (Cauvin 1972, fig. 4, no. 1).

Tokens

We encountered seven small artefacts with simple geometric shapes which most likely served as tokens, i.e. counting devices expressing the quantities of objects exchanged or otherwise deployed (see e.g. Schmandt-Besserat 1992). With regard to the earlier campaigns, it was reported that there were three types of clay tokens (Verhoeven 2000b: 102). On the basis of the 2001 campaign two types can be added. Moreover, besides tokens of clay, tokens of stone were identified. So now the typology is as follows:

Type 1: cones of clay; *Type 2*: spheres of clay and stone (Fig. 10, no. 5); *Type 3*: crescent-shaped object of clay; *Type 4*: disc-shaped clay object; *Type 5*: half-round object of stone. In Table 8 the various dimensions of the complete tokens have been listed.

White Ware

Six fragments have been found of vessels made of so-called white ware or *vaisselle blanche* (e.g. Maréchal 1982; Moorey 1994:149). One fragment was of a flat base and part of an oblique vessel wall, both 1.5 cm thick. The other pieces represent rough, 0.8 to 2 cm thick vessel walls, one with a rounded rim. The white ware was tempered with different substances: small stones, coarse sand, fine sand, and fine sand together with vegetal material.

Bone Tools

The bone implements were represented by two complete awls, two tip fragments of awls, and a piece of polished bone. Most likely, all bone tools were made of the *metapodia* of adult ovicaprids. The complete awls were 8.5 and 7.4 cm long respectively (Fig. 10, nos. 11 and 12). It seems that the point of the smaller awl had been renewed by removing longitudinal pieces of bone. All awls had more or less sharp points that were either triangular, round or flattened in section, and all were smoothed and polished by use. The fragment of polished bone, finally, may have belonged to an awl or, alternatively, to a spatula or polishing instrument.

The Flint and Obsidian Industries

Copeland (2000: 66-67) has divided the flint and obsidian industries of Sabi Abyad II into three stratigraphically successive groups of lower, middle and upper levels, called phases 3 (levels 8-7), 2 (levels 6-4) and 1 (levels 3-2), respectively. In the periods proper to the Balikh valley chronological scheme of Akkermans (1993: 110-113), these industries pertain to the Balikh I period. Following the general PPNB chronological sequence as proposed by the Cauvins (M.-C. and J. Cauvin 1993; M.-C. Cauvin 1994), Copeland has divided this period into four sub-periods:

Balikh IA, comparable to the Cauvins' PPNB *Ancien*, dated ca. 9000-8100 BC: site BS 397 in the Balikh valley;

Balikh IB, an Early PPNB *Moyen* phase, dated ca. 8100-7800 BC (as yet unattested in excavation but perhaps present elsewhere in the valley);

Balikh IC, Late PPNB *Moyen*, dated ca. 7800-7500 BC: Sabi Abyad II phase 3 (levels 8-7);

Balikh ID, PPNB *Récent*, dated ca. 7500-6850 BC: Sabi Abyad II phase 2 (levels 6-4: Early PPNB *Récent*) and phase 1 (levels 3-2: Late PPNB *Récent*).

According to Copeland's analyses, the upper levels (3-2) at Sabi Abyad II clearly show that more sophisticated techniques had emerged than were present in the lower levels. Indeed, the main lithic traits of the PPNB *Récent* levels excavated in 2001 (levels 4, 3 and 2) are the appearance of pressure-flaking and the presence of Amuq points and backed and/or truncated sickle elements. As indicated in the introduction, the flint and obsidian artefacts recovered in 2001 have as yet not been analyzed in detail, and are

therefore only briefly and very generally commented upon here. On figures 11-13 a small selection of the material is presented.

Quite a number of tanged arrowheads, were found, mainly Byblos points (Fig. 11, nos. 1-4), but some Amuq points as well (Fig. 11, nos. 5-6). Interestingly, a number of the arrowheads seem to represent half-products, indicating that they were made at the tell. Especially the open area in square G8 was rich in arrowheads, perhaps indicating a production area. Furthermore, a number of lusted sickle elements were found. As has been noticed earlier (Copeland 2000; Copeland and Verhoeven 1996) some of these reaping tools showed traces of bitumen (Fig. 12, nos. 6 and 7). Apart from these artefacts, the flint tools consisted of various scrapers (especially round scrapers: Fig. 13, nos. 2 and 4), truncated pieces, notches or denticulates, pieces with fine or abrupt retouch and an occasional burin (Fig. 12, no. 4) or borer. The flint debitage was mainly represented by flakes and blades. Cores were scarce.

The obsidian tools mostly consisted of small retouched blades and so-called corner-thinned blades (CTB: Fig. 12, nos. 9 and 10). This type is defined as "an obsidian blade, bladelet or fragment of the same, having one to four small burin-like facets on the ventral surface at the corners of the distal or proximal ends" (Copeland 2000: 62). The obsidian debitage was mainly represented by unretouched blades and bladelets. Unique for Tell Sabi Abyad II was the find of a miniature bladelet core (Fig. 12, no. 11).

Earlier, Copeland (2000: 66-70) has related the flint and obsidian industries of Sabi Abyad II to other PPNB sites. Here, only the relations of the lithics from the upper levels 4, 3 and 2 at Sabi Abyad II, excavated in 2001, are briefly dealt with. In the Balikh valley the lithics of Tell Assouad (levels VIII-VII) and Tell Damishliyya (levels 1 and 2) are comparable to those of the upper levels at Sabi Abyad II (Akkermans 1988; Cauvin 1972; Nishiaki 1993/94, 2000). Middle Euphrates sites in Syria which show connections are Abu Hureyra 2B, especially with regard to Amuq points (Moore 1975), and Halula (PPNB *Récent* levels: Molist et al. 1994, 1996; Molist and Ferrer 1996). To the north of the Balikh, excavations at Gürcütepe in the Harran plan in Anatolia have produced tools reminiscent of those of Sabi Abyad II (Schmidt 1995). To the east in the Khabur basin, Bouqras (lower levels), Tell es-Sinn, Fakhariyah, Feyda and Kashkashok II (especially with regard to CTB's) show connections (Nishiaki 1993, 2000; Hole 1994; Roodenberg 1986, 1979/80). Typologically, the obsidian tool-types from the Khabur sites are similar to those found in the Balikh valley. It has been suggested that the Khabur sites formed the trade links between the Balikh and the eastern obsidian provenance areas (Hole 1995).⁵

AFTERWORD

The excavations at Tell Sabi Abyad II in 2001 have confirmed the earlier findings and conclusions, that have been reported in Verhoeven and Akkermans, eds., 2000. The large exposure of the level 3 settlement (over 800 m²) provides a representative picture of

⁵ Due to the large standard deviations of the dates at the Neolithic sites in the El Kowm oasis in the Syrian desert (Stordeur, ed., 2000:305), the chronological relation between Sabi Abyad II and the El Kowm sites is unclear at present.

the material culture of a Late PPNB community in the steppes of northern Syria. The architecture at the site has two main characteristics: it is irregular (but see also Akkermans and Verhoeven 2000b), and the rooms are very small, probably mainly serving for storage. These people were farmers, but elsewhere (Verhoeven *in press*) I have argued that these farmers may also have practised nomadic pastoralism, using many of the small rooms at the tell for storing their products while they were on the move with their sheep and/or goats. For pastoral nomads the village may have been a focal point, a centre not only for economic activities, but also for social activities, such as meetings and feasts.

As is well known, many (large) PPNB sites in the Levant and Anatolia have provided spectacular evidence of ritual practices (Verhoeven 2002a), and a fair amount of research has focused on these sites and PPNB ritual practice. The recovery of 'temples' (e.g. 'Ain Ghazal, Nevali Çori: Rollefson 2000; Hauptmann 1983), large statuary (e.g. Göbekli Tepe: Schmidt 2001), stone masks (e.g. Nahal Hemar: Bienert 1995), decorated skulls (e.g. Jericho: Kenyon 1981), elaborate burial structures (e.g. Djade: Coqueugniot 1998), and so on, gives the general impression that the PPNB was a 'special' period in Near Eastern prehistory, marked by an elaborate or at least very visible ritual life (contrary to the Pottery Neolithic; Verhoeven 2002b). The important role of ritual at many PPNB sites cannot be denied, but it should be kept in mind that there are also (small) sites from which spectacular evidence of ritual is absent. Sabi Abyad II is such a small, 'normal', site. While rituals were probably carried out (witness the figurines), they were most likely of a different nature than rituals at sites such as just mentioned. Thus, Tell Sabi Abyad II mainly presents a picture of the domestic way of life of a small PPNB community.

Focusing on Syria, Sabi Abyad II is different from other excavated sites in yet another respect. As has been noted earlier (Akkermans and Verhoeven 2000b: 177), sites excavated in the Euphrates basin, such as Abu Hureyra, Halula and Bouqras, were much larger and marked by a careful settlement planning (Moore 1975; More, Hillman and Legge, eds., 2000; Molist 1998; P.A. Akkermans et al. 1983). Moreover, PPNB settlement in the Euphrates basin seems to have been largely restricted to a few large mounds, as opposed to the Balikh valley, which was marked by a pattern of small villages dispersed throughout the basin. Other evidence that PPNB communities in the Balikh valley were distinctive from others, comes from the figurines. As yet the stylized limestone human heads (see above) have only been reported from sites in the Balikh basin (Assouad and Tell Sabi Abyad II) and its continuation into the plain of Harran (Gürcütepe). The people who lived at Tell Sabi Abyad II and at other Balikh sites may thus represent a specific 'group' within the PPNB 'culture', sharing general traits, like tanged projectile points, but with many local characteristics, like settlement distribution, village lay-out and a specific material culture, such as the stylized human heads.

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E7	F7	F8	G8	I5	J5	Level
					1	Iron Age
1A	1A	1	1	1	2	2
1B	1B					
1C	1C					
2A	2A	2A	2	2		
2B						
2C						
2D	2B	2B 2C				
	3A	3A	3A	3A	3A	3A
		3B	3B	3B	3B	
		3C	3C	3C	3C	
				3D	3D	
				3E	3E	
		3D		3F	3F	
	3B	3E	3D			3B
3C	3F	3E				
3	4A		4A	4A	4A	4
	4B		4B	4B	4B	
			4C	4C	4C	
				4D		

Table 1. Stratigraphic relations between the various strata in the areas of excavation of the 2001 campaign.

Room	Dimensions (l x w in m)
1	at least 1.00 m wide
2	at least 1.50 x 0.50
3	1.50 x 1.15
4	1.15 x 0.70
5	1.00 x 0.65
6	1.20 x 0.90
7	0.75 x 0.70
8	1.50 x 1.05

Table 2. Room dimensions of level 3B building X.

Room	Dimensions (l x w in m)
1	at least 4.30 x 3.25
2	3.00 x 1.40
3	2.75 x 0.90
4	1.75 x 0.65
5	1.90 x 0.95

Table 3. Room dimensions of level 3B building XIV.

Room	Dimensions (l x w in m)
1	1.30 x 1.00
2	3.60 x 3.25
3	2.25 x 1.50
4	at least 2.25 x 2.25
5	1.90 x 1.00
6	2.00 x 1.00
7	1.85 x 0.50
8	at least 2.00 x 1.00
9	at least 0.75 x 0.65
10	at least 3.00 x 2.50
11	3.25 x 2.75

Table 4. Room dimensions of level 3B building XV.

Pit	Location	Stratum	Shape	Dimensions (l x w or Ø x d in m)	Fill
C	E7: partly hidden in N section	2C	elongated	at least 2.50 x 1 x 0.30	soft black ash, thin and burnt red and white layers, many burnt stones
I	F7: NE	2	kidney-shaped	0.60 x 0.30 x 0.03	soft grey ash, ab
J	F7: NE	2	rectangular with rounded corners	0.70 x 0.50 x 0.03	soft beige
AL	F8: E, G8: W partly hidden in sections	1	irregular	at least 6.50 x 3.60 x 0.60	soft beige, ls, cp
AM	F8: E partly hidden in section	1	irregular, bell-shaped section	at least 0.60 x 0.30 x 0.30	soft beige
AN	F8: E partly hidden in section	1	irregular	at least 0.80 x 0.40 x 0.24	soft beige, ls
AO	F8: W partly hidden in section	1	irregular	at least 0.70 x 0.35 x 0.30	orange-brown, ls
AP	F8: W partly hidden in section	1	irregular	at least 0.30 x 0.25 x 0.18	soft beige
I	I5: N partly hidden in section	1	irregular	at least 0.60 x 0.50 x 0.60	soft beige, ls

Table 5. Characteristics of the level 2 pits (all fill contains loam, ls = lime spots, cp = charcoal particles, ab = animal bones).

Object	Level				Total 2001	Total all campaigns
	4	3	2	mixed		
Grinding slab	3	5	1	2	11	34
Grinder	3	4	3	1	12	41
Grinding slab or grinder	3	6	3	5	17	17
Mortar		1			1	1
Hammer-stone		2		1	3	26
Celt	1	1	1	1	4	11
Stone vessel	3	10	7	6	26	84
Rubbing/polishing stone		5	6	7	17	46
Retouchoir		1		1	2	2
Palette		1			1	8
Weight		1			1	4
Bead		1			1	9
Pendant		1			1	2
Anthropomorphic figurine			2		2	6
Anthropomorphic figurine?			1	3	4	4
Zoomorphic figurine		2	1		3	36
Anthropomorphic or zoomorphic figurine			2	1	3	3
Token	1	3		3	7	24
White Ware	2	1	3		6	14
Bone awl	1		2	1	4	24
Polished bone			1		1	1
Total	17	45	33	32	127	472

Table 6. Number and chronological distribution of the small finds.

Raw material	N	%
Stone	109	85.8
Clay	13	10.2
Bone	5	3.9
Total	127	100

Table 7. The raw material of the small finds.

Object	No.	Length	Width	Height	Diameter
Type 2 grinder	S01-9	6.2	4.7	1.3	
Hammer-stone	S01-18	5.3	5.1	4.3	
	S01-58	3.5	3.8	3.0	
	S01-89	4.7	5.0	4.2	
Rubbing/polishing stone	S01-19	7.3	7.1	2.4	
	S01-53	2.9	2.4	0.4	
Celt	S01-77	8.4	3.6	1.7	
	S01-98	4.8	2.0	1.6	
Retouchoir	S01-33	11.7	3.2	2.7	
Palette	S01-87	11.2	7.1	3.1	
Token	S01-36				2.1
	S01-78				2.3
Bead	B01-1			0.1	0.5
Anthropomorphic figurine	F01-10	2.6	1.6	2.0	
Type 1 token	S01-93	2.5	1.9	2.0	
Type 2 token	O01-2				2.6
	O01-3				3.1
	S01-36				2.1
	S01-78				2.3
Type 4 token	O01-1			0.9	3.9
Type 5 token	S01-75	1.7	2.4		
Bone awl	I01-2	8.5	2.1	1.5	
	I01-3	7.4	1.4	0.7	

Table 8. Dimensions (in cm) of complete small finds.

Stone sort	N	%
Limestone	23	21.1
Gypsum	11	10.1
Limestone/gypsum/alabaster	11	10.1
Sandstone	5	4.6
Flint	1	1
Quartzite*	2	1.8
Vesicular basalt*	30	27.5
Compact basalt*	11	10.1
Dolorite*	4	3.7
Gabbro*	1	1
Porfirite*	1	1
Granodiorite*	1	1
Unidentified	8	7.3
Total	109	100

Table 9. The stone sorts as represented by the PPNB small finds. * = stone sorts not indigenous to the Balikh valley.

CATALOGUE OF ILLUSTRATED SMALL FINDS

Order of presentation: master file no., description, material, dimensions, provenance.

Figure 9. Stone vessels.

1. S01-86, stone bowl, wide and open shape (type 3), flat rim, gypsum with orange bands, Th: 1.1 cm, H: 6.2 cm, D: 27.2 cm, I5, level 3A, building XVI, rooms 1-2.
2. S01-88, stone bowl, open shape (type 1), rounded rim, limestone, Th: 1 cm, D: 17.3, I5, level 3A, building XVI, rooms 1-2.
3. S01-12, stone bowl, open shape (type 1), rounded rim, limestone, Th: 1.1 cm, F7, level 2, open area.
4. S01-74, stone bowl, open shape (type 1), pointed rim, limestone, Th: 0.6 cm, D: 14.9 cm, G8, levels 3A/3B, open area.
5. S01-68, stone bowl, open shape (type 1), rounded rim, limestone, Th: 1 cm, G8, levels 2/3B, open area.
6. S01-66, stone bowl, closed shape (type 2), flat rim, limestone, Th: 0.8 cm, D: 16 cm, G8, levels 3A/3B, open area.
7. S01-258, miniature bowl (type 4), with three feet, limestone, Th: 0.8 cm, H: 1.6 cm, D: 3.3 cm, E7/F7 baulk, levels 2/4, open area.

Figure 10. Various small finds.

1. F01-5, zoomorphic figurine: bull, testicles indicated, unbaked clay, L: 4.5 cm, W: 1.7 cm, H: 3.2 cm, E7, level 2, open area.
2. F01-1, anthropomorphic figurine: seated female, head and legs broken off, unbaked clay, L: 3.2 cm, W: 2.7 cm, H: 3.1 cm, F7, level 2, open area.
3. F01-2, base of anthropomorphic figurine, unbaked clay, H: 2.9 cm, D: 1.9 cm, E7, level 2, open area.
4. F01-10, anthropomorphic figurine: stylized human head, neck artificially flattened at base, very soft limestone, L: 2.6 cm, W: 1.6 cm, H: 2.0 cm, F8, level 2, open area.
5. S01-36, spherical token (type 2), limestone, D: 2.0, F8, levels 3A/3B, building XV, room 8.
6. B01-1, small bead, green stone, H: 0.3 cm, D: 0.9 cm, F8, levels 3A/3B, building XV, rooms 2, 4.
7. S01-98, small celt, dolorite, L: 4.8 cm, W: 2.0 cm, H: 1.6 cm, J5, level 3A, pit H.
8. S01-77, celt, traces of use (small pits) on sides, dolorite, L: 8.4, W: 3.6, H: 1.7, G8, level 4, open area.
9. S01-14, retouchoir, traces of use (small pits) at short end, dolorite, L: 5.4 cm, W: 2.3 cm, H: 1.1 cm, F7, level 3B, building XIV, room 1.
10. S01-33, retouchoir, traces of use (small pits) at both short ends, gabbro, L: 11.7 cm, W: 3.2 cm, F8, levels 2/3A, open area.
11. I01-3, bone awl, smooth and polished due to use, probably made of *metapodium* of sheep/goat, tip probably renewed by flaking, L: 7.4, W: 1.4, H: 0.7, F8, levels 2/3A, open area.
12. I01-2, bone awl, smooth and polished due to use, probably made of *metapodium* of sheep/goat, L: 8.5 cm, W: 2.1 cm, H: 1.5 cm, E7, level 2, open area.
13. S01-65, weight, compact basalt, L: 7.0 cm, W: 3.3 cm, D: 11.8 cm, G8, levels 3A/3B, open area.

CATALOGUE OF ILLUSTRATED FLINT AND OBSIDIAN TOOLS

Order of presentation: type and special traits, raw material (fine-grained unless stated otherwise), colour, provenance.

Figure 11. Flint artefacts: projectile points.

1. Byblos point, grey-brown flint, proximal 'PPNB scar', F8: levels 2/3A/3B, open area.
2. Byblos point, grey-white flint (dehydrated light grey flint), F8: levels 2/3A, building XV, room 10.
3. Byblos point, yellow-brown flint, F7: level 3B, building XIV, room 3.
4. Small Byblos point, light-brown flint, G8: levels 3A/3B, open area.
5. Amuq point, light chocolate-brown flint, F8: levels 2/3A, open area.
6. Amuq point, chocolate-brown flint, G8: levels 2/3A, open area.

Figure 12. Various flint and obsidian artefacts.

1. Retouched blade, retouch at both lateral edges of dorsal side, honey-coloured flint, F8: levels 3A/3B, building XV, room 2.
2. Long blade with use-retouch at lateral edges of dorsal side, medium-grained grey-white (dehydrated?) flint, F8: levels 3A/3B, building XV, room 2.
3. Truncated piece, retouched at one lateral edge of ventral side, brownish-white medium-grained flint, F8: levels 2/3A, open area.
4. Burin, two working edges, dark-brown flint, G8: levels 3A/3B, open area.
5. Blade with use-retouch at both lateral edges of dorsal side, translucent grey obsidian, F8: levels 3A/3B, building XV, room 2.
6. Lusted sickle blade, lustre and black bitumen at both lateral edges, beige flint, G8: levels 2/3A, open area.
7. Lusted sickle element, use-retouch with sickle gloss at one lateral edge of ventral side, traces of bitumen of dorsal side, medium-grained honey-coloured flint, F8: levels 2/3A, open area.
8. Lusted sickle blade, one toothed lateral edge with slight sickle gloss, medium-grained honey-coloured flint, G8: levels 2/3A, open area.
9. Corner-thinned blade (CTB), two scars at proximal end, use retouch at one lateral edge of dorsal side, grey-black slightly translucent obsidian, F8: levels 3A/3B, building XV, room 2.
10. Corner-thinned blade (CTB), one scar at proximal end, use retouch at both lateral edges of dorsal side, grey-black obsidian, F8: levels 3A/3B, building XV, room 2.
11. Miniature bladelet core, black obsidian, F7/G7 baulk: level 2, open area.

Figure 13. Flint artefacts: scrapers.

1. Double end-scraper, also retouched at lateral edges of dorsal side, light-brown flint, G8: levels 3A/3B, open area.
2. Round scraper, medium-grained beige flint, F8: levels 2/3A, open area.
3. End-scraper on flake, grey-brown flint, F8: levels 3A/3B, building XV, room 2.
4. Round scraper, grey-beige flint, F8: levels 2/3A, open area.

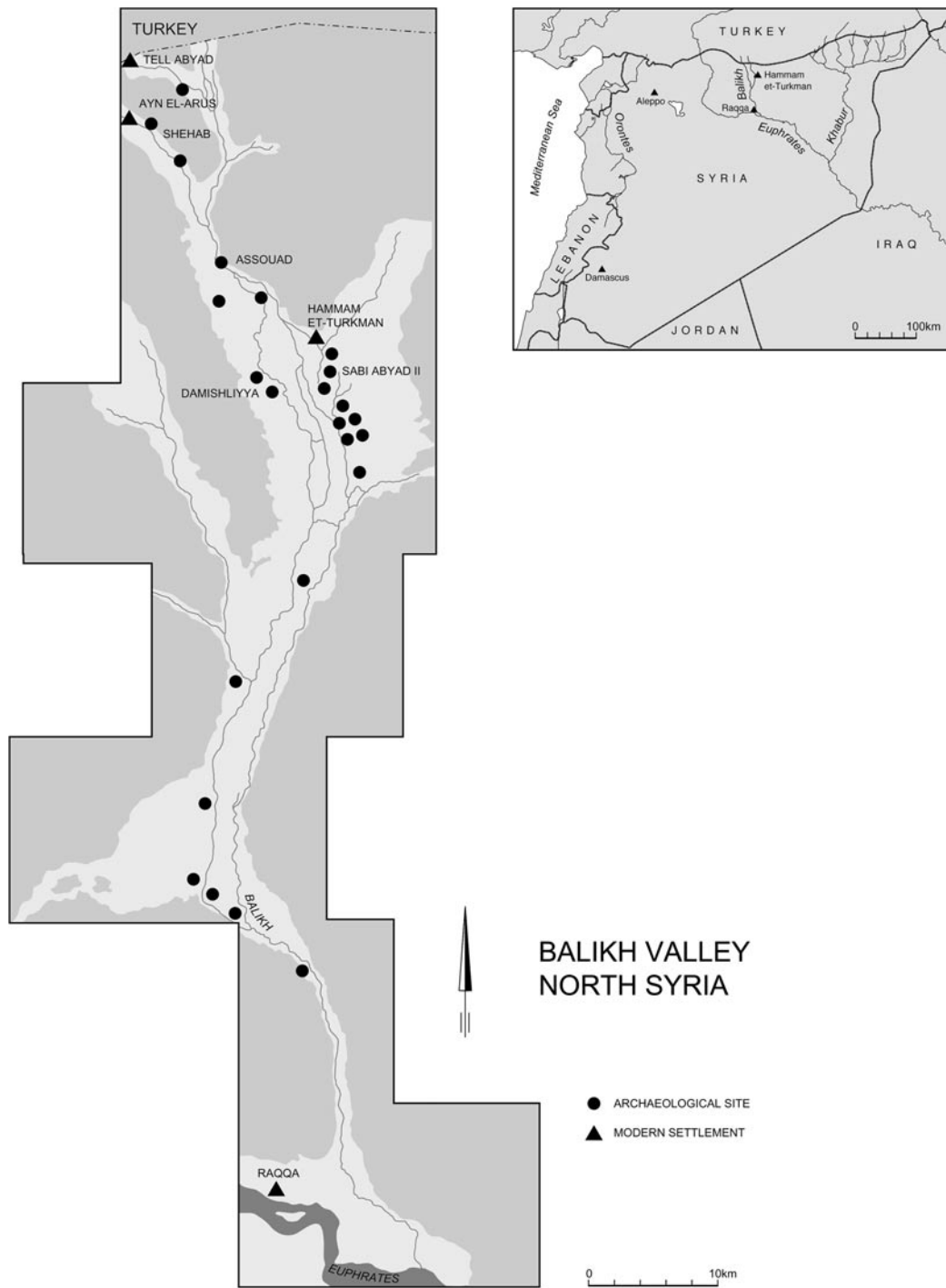


Fig. 1. Map of the Balikh valley and the location of PPNB sites.



Fig. 2. Contour map of Tell Sabi Abyad II with the areas of excavation.



Fig. 3. Plan of the level 3 settlement. Apart from pit A in square G4 and pit I in square H5, all pits are level 2 features. Islamic burials are marked with a B.

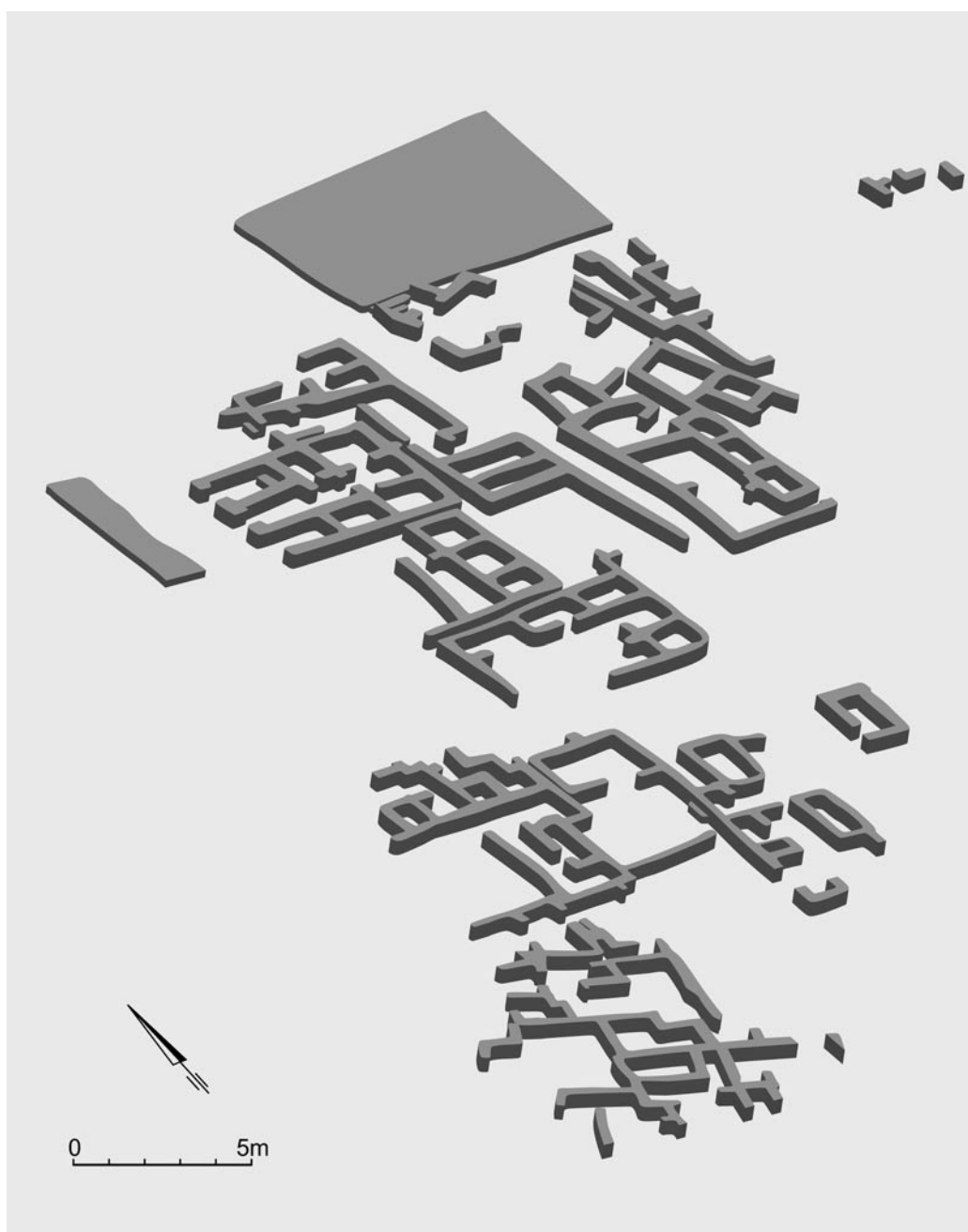


Fig. 4. Axonometric reconstruction of the level 3 settlement.

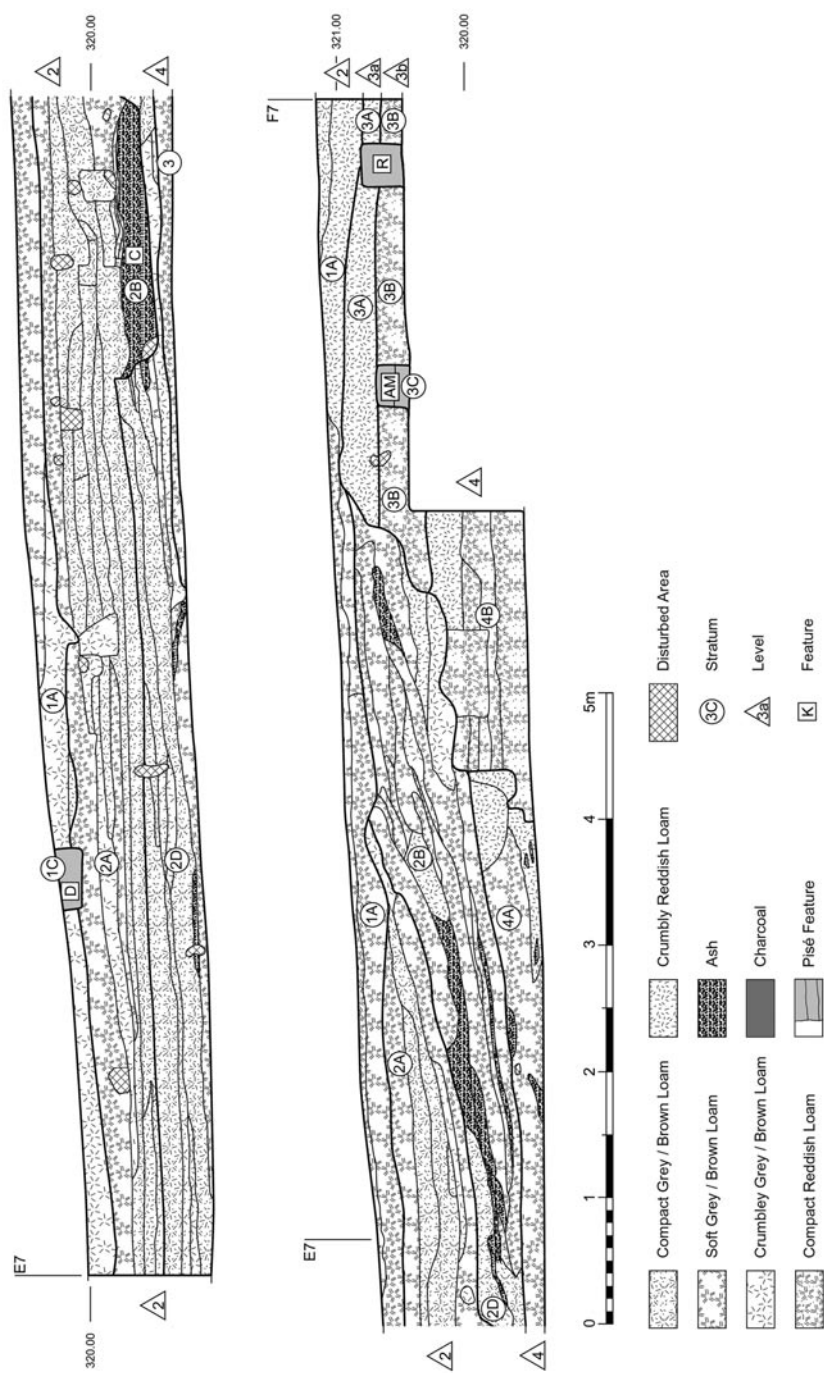


Fig. 5. North sections of squares E7 and F7.

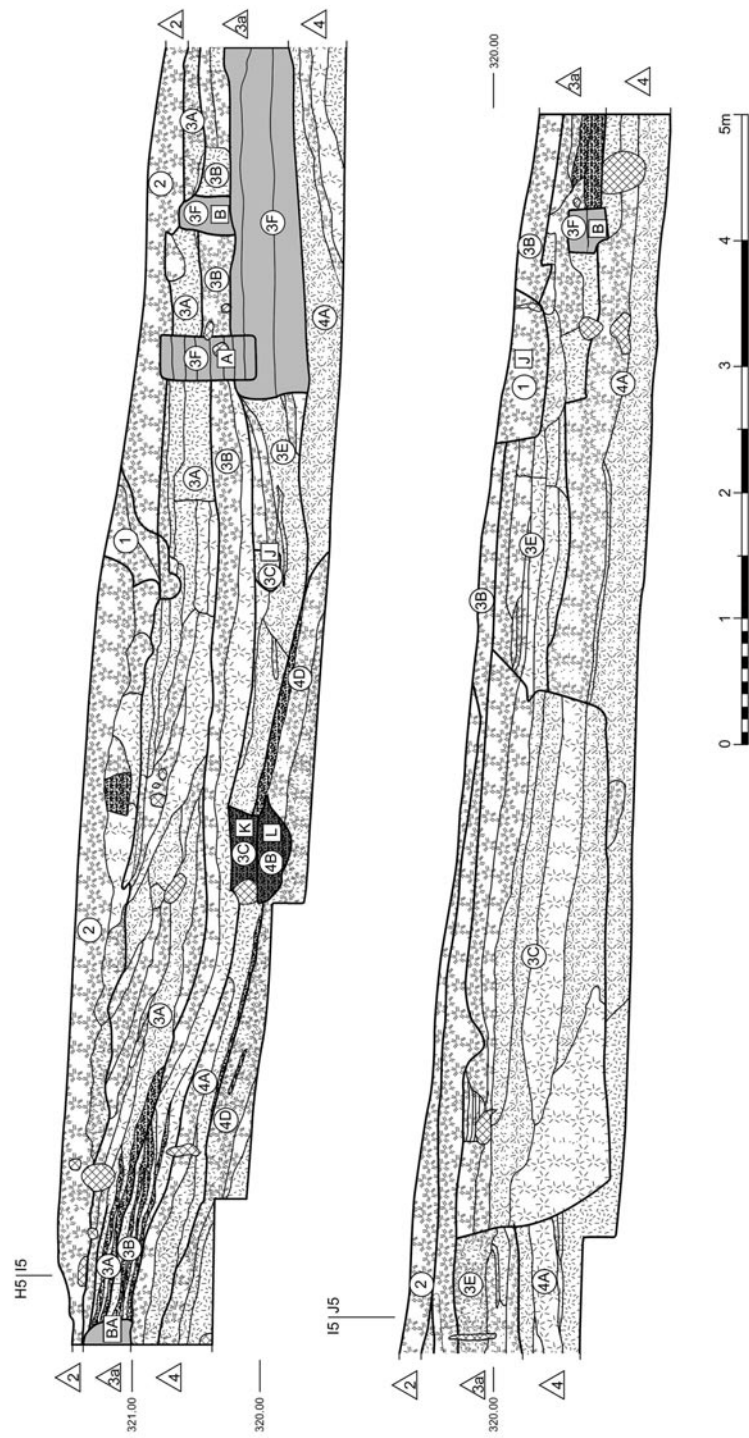


Fig. 6. North sections of squares I5 and J5 (legend: see Fig. 4).



Fig. 7. Level 3 architecture in squares F7 and F8: buildings X, XIV and XV.



Fig. 8. Level 3 architecture in square F8: building XV.

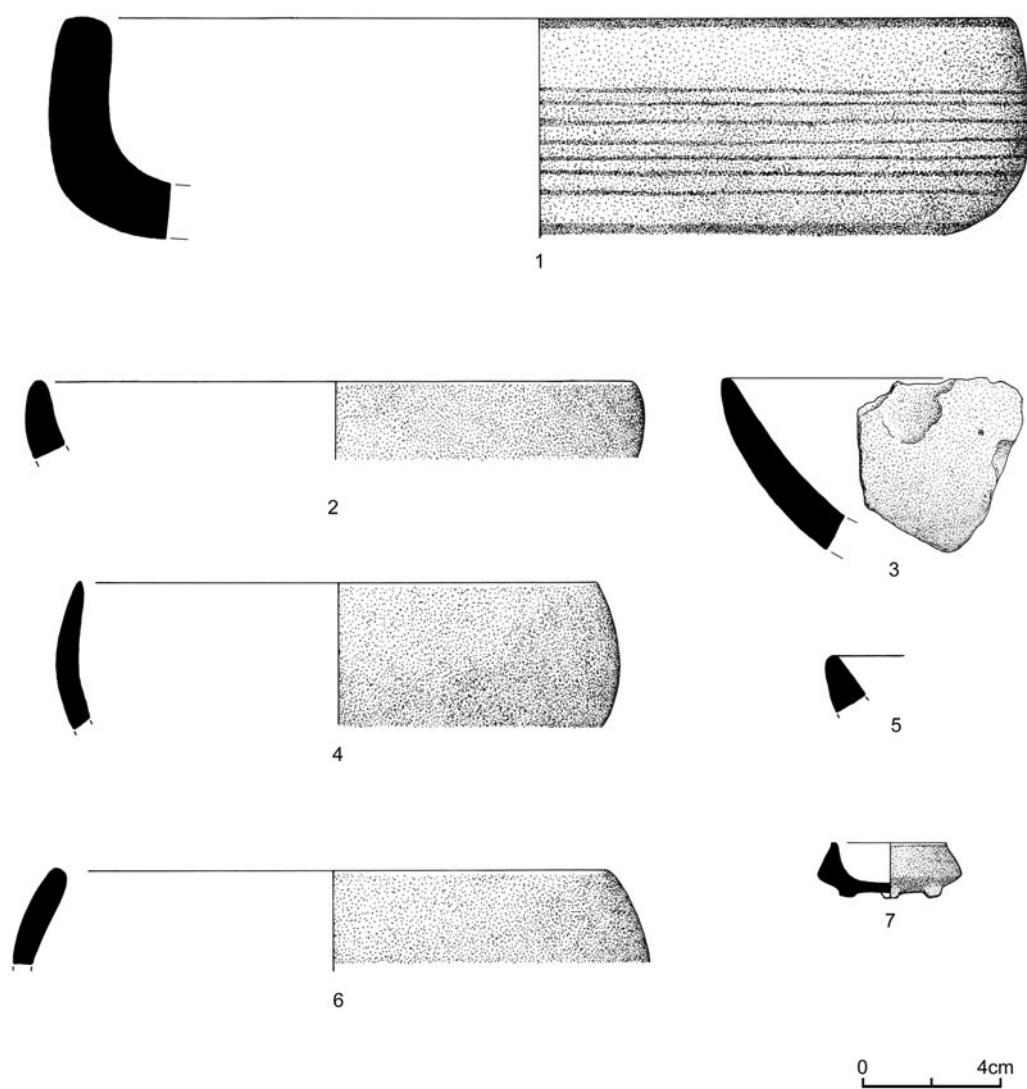


Fig. 9. Stone vessels.

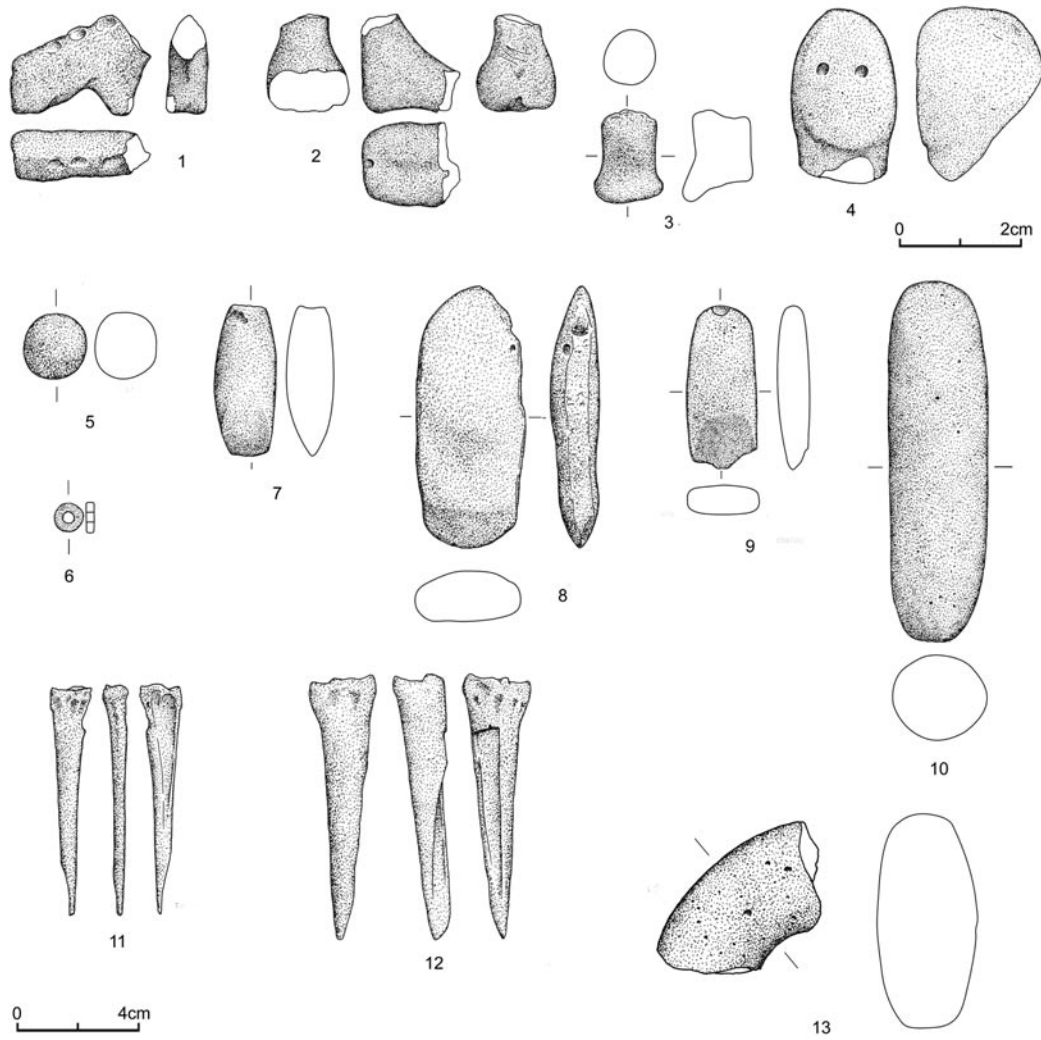


Fig. 10. Various small finds.

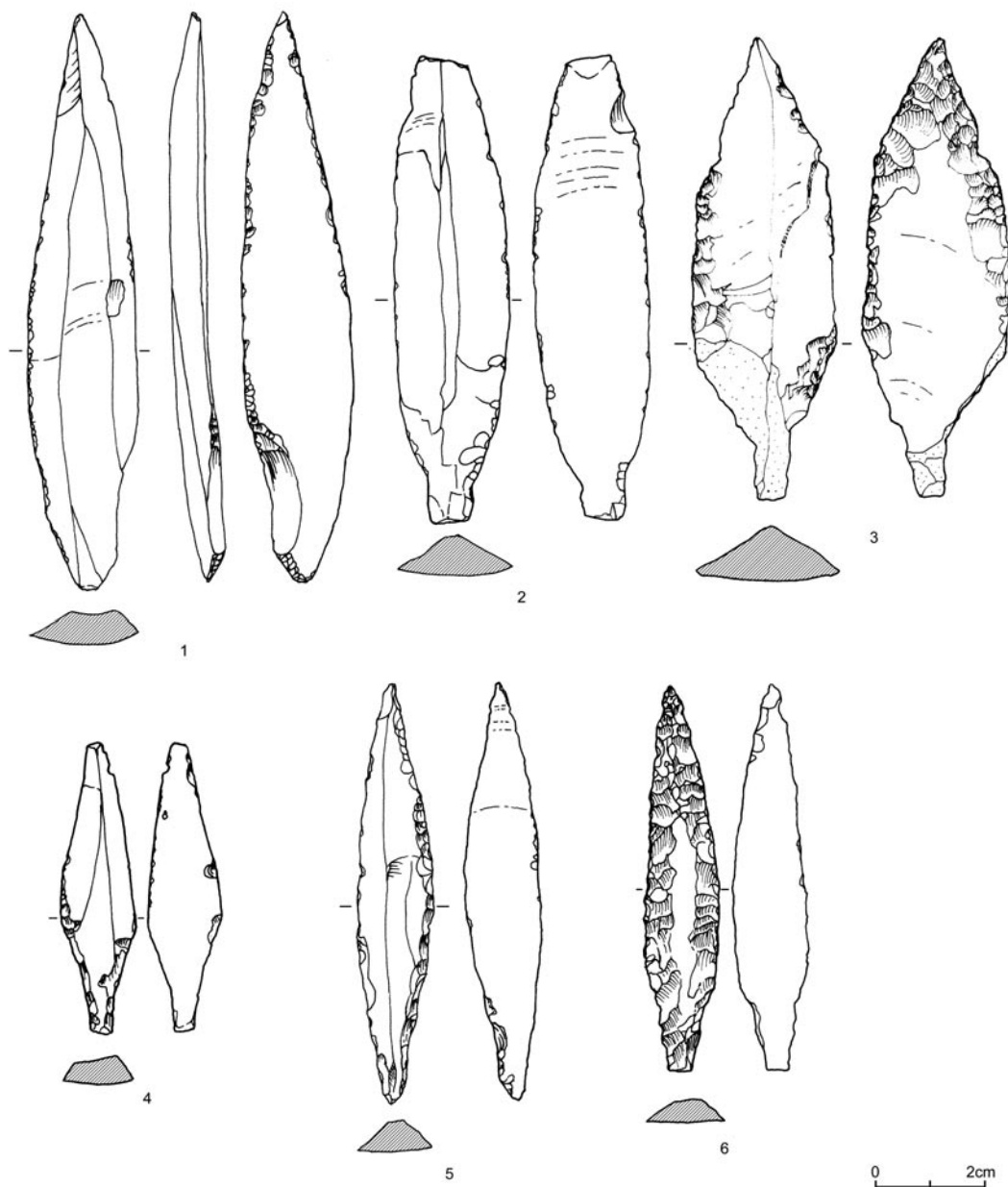


Fig. 11. Flint artefacts: projectile points.

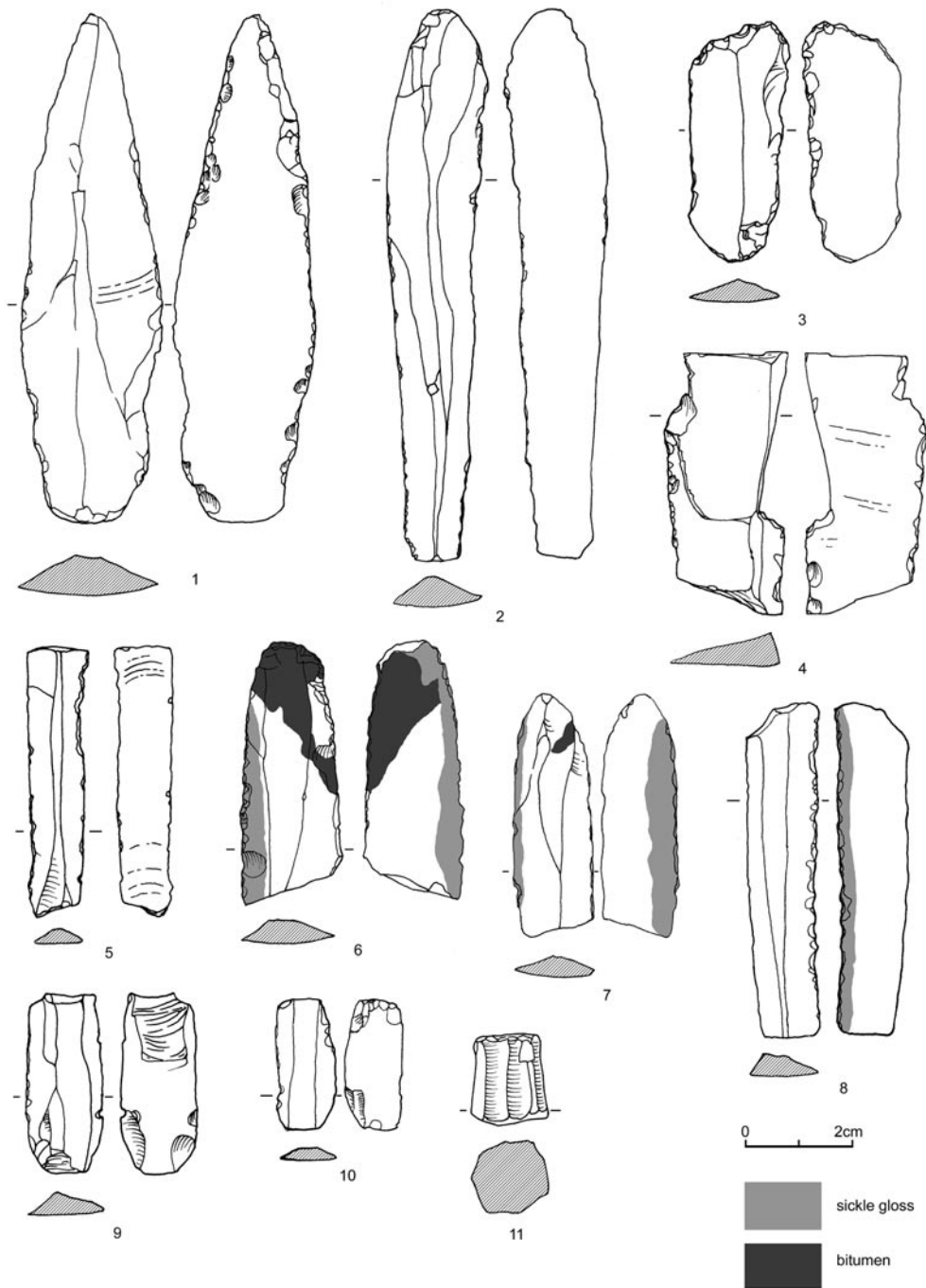


Fig. 12. Various flint and obsidian artefacts.

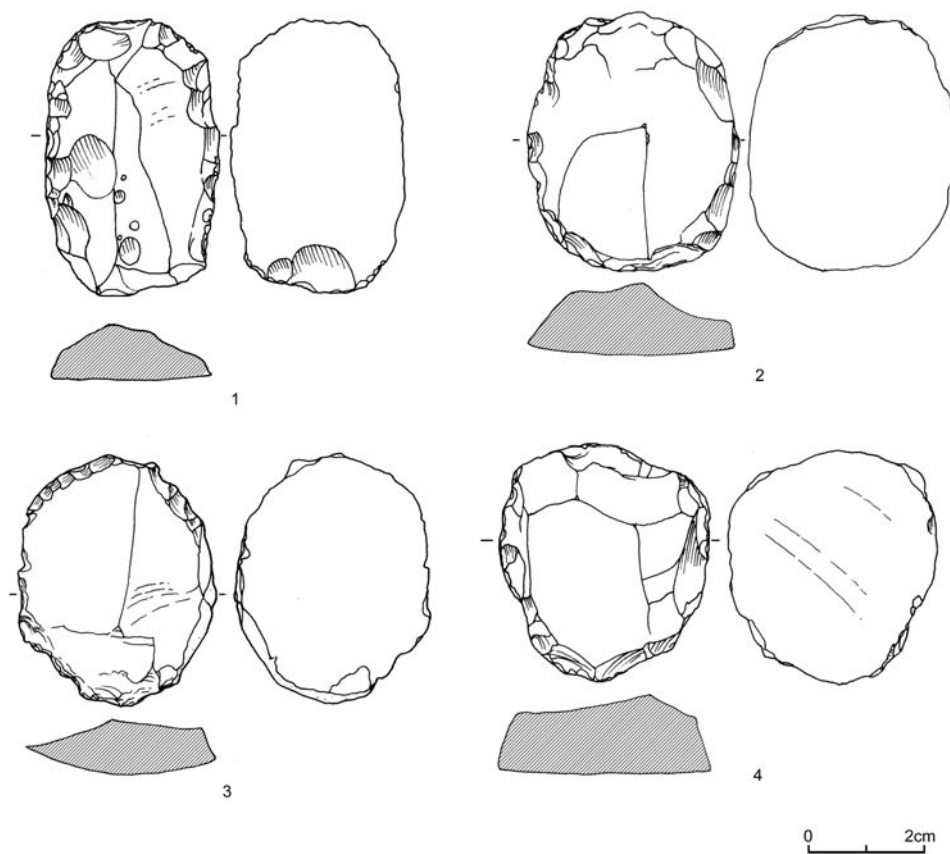


Fig. 13. Flint artefacts: scrapers.

ANATOLIAN-BALKANIC CONNECTIONS. The Central Greek District of Vitrinitsa (Tolophon) and the North Anatolian town of Amasya in the 15th-17th Centuries According to Unknown and Rarely-Used Ottoman Turkish Sources*

Machiel Kiel

The small and particularly mountainous district of Vitrinitsa (now: Tolophon), is situated on the northern shore of the Gulf of Corinth, halfway between Delphi and Lepanto/Navpaktos in Central Greece. The history of the district of Vitrinitsa in the Ottoman period, and its links with the beautiful northern Anatolian city of Amasya on the river Kızıl Irmak, have remained a blank page of history.

For Vitrinitsa the Ottoman period lasted, with only a single interruption, from 1394 to 1821. For Amasya the Ottoman period started in about the same year as Vitrinitsa but it lasted a full century longer. After the end of the Frankish and Catalan periods, from the mid-15th century onward, virtually nothing is known about Vitrinitsa and its district until the early 19th century. This is not because there are no sources for this long period, but rather because of the insufficient knowledge amongst historians of Ottoman Turkish, the language in which the records are written.

About Amasya, on the other hand, much more is known. Amaseia of antiquity, was the residence of the formidable King Mithridatus of Pontus (150-75 BC). In Byzantine times Amasya was a provincial town. Then, from about 1080 AD, it was a centre of the chivalrous Turkish dynasty of the Danişmendids. Subsequently it was a centre of the art-loving Seljuks. Under the Ottomans, beginning in 1398 Amasya became an Ottoman princely residence and, because of its many institutions of higher learning, it was called the "Oxford of Anatolia."

The history of Vitrinitsa is less exciting, but is worth recounting nevertheless. It is characteristic for the history of Anatolia and the Balkans that a relatively remote place like Vitrinitsa became part of the Ottoman Empire even before Amasya. It shows the relative importance of *Rumeli* for the Ottoman Empire.

In the present contribution we hope to cast some light on the history and development of Vitrinitsa. After a brief overview of the geography of the district, we will

* The sources on which this study rests were collected during several working campaigns in the Turkish archives in Istanbul and Ankara, and during repeated visits to the area itself, which were generously sponsored by the Netherlands Organisation for the Advancement of Scientific Research (ZWO/NWO), The Hague, and the Deutsche Forschungsgemeinschaft (DFG) in Bonn. I would like to thank the Turkish authorities for permitting me to work in their archives and for the help I received from them at every stage of the work. I would also like to thank my wife Hedda Reindl-Kiel for her valuable advices, and my friend Steve Lewis, New York, Sofia, for reading the text carefully and improving it whenever needed.

turn to its early history, the history of the district prior to and following the Ottoman conquest. We will then establish a link between Vitrinitsa and Amasya, a tie that was primarily financial and administrative. In doing so, we will present examined sources and a number of relevant historical issues. Finally, on the basis of our sources, we will trace the demographic development of Vitrinitsa from the mid-15th to the early 17th century in so far as the sources allow and indicate some modern-day parallels.

Geography

The district of Vitrinitsa comprises the narrow plain of Vitrinitsa and the much larger and more fertile plain of Malandrino and Plessa (now Amygdalea) further to the east. The greater part of the district consists of mountains, covered with woods or more often with *maquis*. The whole district measures about 25 km from east to west and 15 km from the shores of the Gulf of Corinth in the south, to the mountains of Lidoriki in the north.

The administrative centre of the district – and for most of the period its largest settlement – was Vitrinitsa, situated (as the crow flies) 23 km to the south-west of Salona (Amphissa) and 47 km by road. Salona was the main centre of the Ottoman *Kadılık* (judicial district under a Kadı or judge) of which Vitrinitsa was a *Nahiye* or subdistrict under a Na'ib, a probable perpetuation of the previous Franco-Catalan administrative division. In the 15th-17th century the district contained 14 settlements. At its prime, in 1570, the *Nahiye* of Vitrinitsa had about 5,400-5,900 inhabitants, far more than in our time.

Vitrinitsa is situated 3½ km inland of the Gulf of Corinth near the present-day village of Eratini. It is the indirect successor of the ancient town of Tolophon. The narrow plain in which it is situated opens southwards to the sea. On a steep hill, at the western edge of the plain lay the ruins of a small Frankish castle. On the south-western edge of the plain of Eratini, near the present Paralía Tolophónos are the remains of ancient Vitrinitsa/Tolophon, now partly disturbed by the construction of the new road Amphissa-Navpaktos and by hotel buildings. The other ancient centre in the area is at Malandrino, on the inland plain, where considerable parts of the town walls of the ancient Physkeis are still visible today. Both towns disappeared at the end of Antiquity.¹ Between that time and the mid-12th century virtually no written sources have survived to cast light on their history, a common situation with many parts of Greece.

Sources and History

The historical toponymy of the district could help us in reconstructing its medieval history. Unfortunately, 20th century nationalist frenzy willfully obliterated this faithful mirror of history. We can only recover it with help of 19th century maps and, much

¹ For Tolophon see: W.A. Oldfather, "Tolophon" in: Paulys Real-Encyclopädie der classischen Alterthums-wissenschaften, 6 A2 (1937, column 1683/85. For Physkeis: Paulys Real-Encyclopädie, 39, Stuttgart 1941, article "Physkos" column 1167-1169.

earlier, in the Ottoman records, which for the district in question are preserved from 1466 onward. They are: MAD 66 from 1466, T.D. 36 from 1506, T.D. 367 from 1521, T.D. 431 from 1540, all in the Başbakanlık Osmanlı Arşivi (BBOA) in Istanbul; T.K.G.M. Ankara, Kuyudu Kadime 183 from 1570; MAD 15250 in Istanbul; and Sofia, Nat. Libr. Oriental Department F 195/2 from 1689. The 1466 and 1521 registers are *icmal* (synoptic), 1506, 1540 and 1570 are *mufassal* (detailed); 1603 is a *mufassal* register of the poll tax, and 1689 is an *icmal* poll tax register, giving only the village names and the total tax payers (heads of households) per village. T.D. 367 was written in 1530 but based on a detailed register from 1521, of which only a fragment is preserved. The 1689 *icmal* poll tax (*cizye*) register was written two years before the great reform of the poll tax under the able Grand Vezier Köprülüzâde Mustafa Pasha is more the result of a local deal than an actual registration and the numbers it contains shall therefore not be used here.

The earliest Ottoman census- and taxation register, MAD 66, preserves 18 place names within our area: Kalami, Kiseli, Kokovište, Lambino, Likostiani, Likotoni, Makrisi, Malandrino, Marazia, Mavronik, Milea, Nikola Grammatiko, Plessa, Sirvus, Sotaina, Velanikos, Vidavi, and Vitrinitsa itself. Only half of these names are Greek, eight are Slavic and one Albanian.² Such a high proportion of non-Greek place names suggests that great changes of settlement pattern and ethnic composition of the population of the district had taken place after the end of Antiquity and before 1466, most likely prior the ninth century restoration of Byzantine rule in Central Greece.

During the 15th and 16th century four of the place names, Kalami, Kiseli, Sirvus, and Vidavi, refer to deserted villages, *Wüstungen*, uninhabited places whose lands were worked by the villagers of Vitrinitsa. Thus prior to the arrival of the Ottomans there seems to have been a period of considerable desertion and destruction in the area, best to be connected with the Europe-wide economic, political, and demographic crisis of the 14th and most of the 15th century.³

The name Vitrinitsa is Slavic, meaning “Windy Place”, no doubt a reference to the strong winds that often blow from the Gulf of Corinth. The name is first mentioned in 1147, when the troops of the Norman King Roger II of Sicily plundered it, as recounted in the well known Chronicle of Galaxidi, the only source giving details on medieval Doris.⁴ At least from the time of the Fourth Crusade and the partition of Byzantine Greece in 1204 onward, Vitrinitsa belonged to Salona, another possible continuation of previous

² cf. Max Vasmer, *Die Slaven in Griechenland* (Abh. der Preussischen Akademie der Wissenschaften, Phil.Hist. Klasse, 1941, Berlin 1942 (2. Leipzig 1970), p. 114. For the seven other Slavic place names, mentioned above, see also Vasmer, p. 105 and 114-117.

³ For the demographic decline of the 14th and 15th century and the desertion of many settlements, including whole towns, see the overview of Erich Meuthen, *Oldenbourg Grundriss der Geschichte, Das 15. Jahrhundert*, especially p. 3-6: For the *Wüstungen*/deserted villages, to classic is: Wilhelm Abel, *Die Wüstungen des ausgehenden Mittelalter. Ein Beitrag zur Siedlungs- und Agrargeschichte Deutschlands*, Jena 1943, (third ed. Stuttgart 1976); for the general European trends see for example Carlo M. Cipolla - Knut Borchardt, *Bevölkerungsgeschichte Europas*, München 1971, especially the essay of C.J. Russell, “Die Bevölkerung Europas, 500-1500”, p. 9-58.

Very rich is also the collection of comparative studies: *Villages désertés et histoire économique (Xe-XVIIIe siècle)*, Paris 1965, with a special section on Greece by Antoniad-Bibicu.

⁴ cf. K.N. Sathas, (ed.) *Chronikon anekdoton Galaxideion*, Athens 1914, p. 204, 213 vv.

administrative divisions. In 1304 the *Chronique of the Morea* mentions it as a harbour.⁵ Koder and Hild⁶ assumed that the castle of Vitrinitsa was built in the 13th century, which seems logical, even though this castle is mentioned in the sources only in the 14th century, in 1318, 1366, 1368, and 1380. Vitrinitsa is supposed to have been an independent fief in the county of Salona.⁷

In early months of 1394 Sultan Yıldırım Bayezid took the entire county of Salona, and with it Vitrinitsa, from its Catalan countess, after having been invited by the Greeks, as is related by the *Chronicle of Galaxidi*, by Sphranzes and Chalkokondylas, as well as colourfully retold by William Miller in 1908.⁸ That the Turks were master of Vitrinitsa is confirmed in 1395 by the Italian traveller Niccolo de Martoni, who calls the place: "terra Vetricnicza".⁹

Less than ten years later, in 1404, two years after the fall of Yıldırım Bayezid in Battle of Ankara, the Byzantine Despot of the Morea, Theodoros Palaiologos, captured the castles of Salona and Vitrinitsa. Unable to hold them himself, he gave them to the Knights of St. John. The Knights were soon driven out by the Turks, once again with help of the infuriated Greeks, who deeply despised the "Frankish priests".¹⁰ The Ottomans seem to have kept the former county of Salona, or parts of it, for decades. Then, in April 1445, the Senat of Venice received the message that Constantin Palaiologos of the Morea had taken Vitrinitsa. Its Turkish commander had offered it to Venice.¹¹ Koder and Hild maintain that the Turks, after having regained Vitrinitsa after 1397, gave the harbour and the castle to the Venetians who had been driven out by Despot Constantin for a short time in 1445.¹²

In all, it is not clear exactly what occurred between 1445 and the end of Frankish rule over this part of Greece due to the Ottoman conquest of the Florentine Dukedom of Athens in 1458 and the annexation of the remainder of the Dukedom after the elimination of its last Duke in 1460. The fact that Salona once had a mosque of Sultan Mehmed the Conqueror (1451-1481) and not of his father Murad II (1421-1451) would suggest that the Salona area definitely became part of the Ottoman empire in 1458/60. On the other hand, the oldest preserved Ottoman register of Thessaly and adjacent districts, dated 1455

⁵ Cf. J. Longnon (ed.), "Livre de la conquête de la principauté de l'Amorée", *Chronique de Morée 1204 à 1305*, Paris 1911, §§ 889, 891.

⁶ Johannes Koder, Friedrich Hild, *Tabula Imperiae Byzantini*, I, Hellas und Thessalien, Wien 1976, p. 135.

⁷ cf. Antonio Rubió y Lluch, *Diplomatari de l'orient Català (1301-1409)* Barcelona 1947, p. 356, 391, 490 vv (the numbers 272, 300, 304 and 403).

For the castle itself see: A. Rubió y Lluch, "Els castells catalans de la Grècia continental", in: *Anuari de l'Institut d'Estudis Catalans*, 2, 1908, p. 364-425.

⁸ William Miller, *The Latins in the Levant, A History of Frankish Greece (1204-1566)*, New York 1908, p. 346-347. For the counts of Stromoncourt of Salona see also: J. Longnon, "Les Autremontcourts, seigneurs de Salona en Grèce", in: *Bulletin de la Société de Haute Picardie*, 15, 1937, p. 15-48.

⁹ See: L. Le Grand, *Relation de Pèlerinage à Jérusalem de Nicolas de Martoni, notaire Italien (1394-1395)*, p. 660.

¹⁰ See: Sathas, *Chronikon anekdoton Galaxidion*, p. 203, 205, 209-214. William Miller, *The Latins in the Levant*, New York 1908, p. 369, with rich further references. Koder and Hild, *Tabula Imp. Byz.* I, p. 136, however, place the Byzantine recapture and cessation to the Knights of St. John in 1397.

¹¹ Colin Imber, *The Ottoman Empire 1300-1481*, Istanbul 1990, p. 136.

¹² Koder and Hild, *Tabula Imp. Byz.* I, p. 136.

(MAD 10), makes clear that the Ottomans controlled the Kravari district just west of Vitrinitza and north of Navpaktos/Lepanto well before 1455.

The 1455 register, makes frequent references to an earlier Ottoman census, which is not preserved. In 1445, Mehmed II, during his brief, first reign, had made new census- and taxation registers of the Ottoman Balkans. From this register a number of fragments have been preserved. We can assume that the “previous register” mentioned in 1455 is in fact that of 1445. However, we may also assume that it is much older and on good grounds attribute it to approximately 1425, i.e. during the first years of Murad II (1421-1451), following his consolidation of power.

Less than 20 km from the villages of Milea and Marazia in the northwest part of the Vitrinitza district, and just inside the southern border of the district of Kravari, lie the villages of Vetolište and Limnište. Vetolište and Limnište and all of Kravari could have been Ottoman as early as 1425, if not earlier. It could be that Theodore Palaiologus was unable to hold Salona because the Ottoman forces were too near. Be this as it may, the least we can say is that the period 1404-1460 is the least known of the history of our district and all that can be said about it are vague suppositions.

The first Ottoman source to give solid detailed information on the status of the district and the size and the composition of its population is the “Defter-i mühmel-i Livâyı Tirhala” or: Synoptic Register of the Province of Trikkala, dating from 871 of the Hidjra (13 August 1466-1 August 1467), preserved as MAD. 66 in the Başbakanlık Osmanlı Arşivi in Istanbul. It contains a list of villages of all of Thessaly and the land around Levadia, Thebes, Salona and Lidoriki. It does not list the villages of Attica and the great island of Evvia, the former just having suffered a Frankish attack, the latter not yet being in Ottoman hands.

In the 1466 register the settlements are grouped by the category they had in the Ottoman system: crown land for the sultan and the highest dignitaries of the state (*hass*), great fiefs (*ziamet*), and small fiefs (*timar*), for the middle- and lower groups of the ruling class, and giving the total number of households, unmarried young men and widows (heads of incomplete households) and the total tax amount each settlement had to pay. No more. Introductory notes accompany the description of important settlements or groups of them. This kind of register is called “İcmal” (pron.: *Idjmal*) or synoptic. This is in contrast to the second category of registers, “mufasssal” or detailed registers. Such detailed registers give the names of all the heads of households village by village, as well as those of the unmarried adult young men, and the widows, and a detailed survey of all taxes on agricultural products, the quantity and the value of each product.¹³ The *mufasssal* register

¹³ There is a growing literature on the manner the Ottoman censuses were made, what one can do with them and which are their shortcomings. We mention in chronological order: Gyula Káldy-Nagy, “Bevölkerungsstatistischer Quellenwert der Gizye Defter und der Tahrir Defter”, in: *Acta Orientalia Hungarica*, 11, Budapest 1960, p. 259-269.

Bruce McGowan, “Food Supply and Taxation on the Middle Danube (1568-1569)”, in: *Archivum Ottomanicum*, 1, 1969, p. 139-196.

Irene Beldiceanu-Steinherr - N. Beldiceanu, “Règlement ottoman concernant le recensement (première moitié du XVe siècle)” in: *Südost-Forschungen* 38, München 1978, p. 1-40. Speros Asdrachas, “Problems of the Economic History of the Period of Ottoman Domination,” in: *Journal of the Hellenic Diaspora*, 6:2, 1979, p. 5-37.

of 1466, which was the base of the *icmal* MAD 66, is not preserved. Also not preserved is the register made immediately after the Ottoman conquest of the central Greek lands (1460), to which our register frequently refers.

The Link Between Vitrinitsa and Amasya

According to the 1466 *icmal* register Vitrinitsa was a great fief, a *ziamet*, in usufruct of the Ottoman functionary Kul Hızıroğlu Mehmed Bey (later Pasha), a native of Amasya. Eventually, the descendants of Kul Hızıroğlu Mehmed came to settle in our area. Most probably in the little town of Salona (now: Amphissa), which had developed into a small Muslim centre. In the villages of Vitrinitsa, and in the place itself, no Muslims lived. A document preserved in the Ali Emiri section of the B.B.O.A as “Kanuni nr 3” contains the text of a firman from Sultan Süleyman to the Kadi of Salona dating from the first decade of of Zu'l-Hicce 953 (late Jan. 1547) and dealing with a dispute among the sons of Kul Hızıroğlu Mehmed about the division of the revenue of the *Ziamet* Vitrinitsa, may cited as proof that Mehmed Bey's offsprings were actually living in the Vitrinitsa district.

Towards the end of his life Mehmed (see *infra*) had divided the yearly income of his estate in three parts: one part was given to a foundation for his offsprings, one part was devoted as source of income for a *mesdjid* and a *zaviye* he had built in Gallipoli, and the largest part was to remain his *mülk*, providing himself with discretionary income in Amasya.

On folio 146^V of our source we find the following introductory note to our district, explaining how Mehmed Bey had acquired the Vitrinitsa district as his property:

“Village of Vidirindje, full property (*mülk*) of Mehmed Bey son of Kul Hızır. It has been full property of Sultan Hatun, daughter of [the princely house of] Saruhan. After her death it came to her daughter and then was bought by the aforesaid Mehmed Bey. He has in his hands a written decision that its poll tax is taken by the Sultan but that the other revenues are taken by the owner. At present [during the 1466/67 registration] he has again applied and a new written decision has been given. The poll tax of all the Albanian semi-

Istvan Hunyadi, “Etude comparée des sources fiscales turques et hongroises du XVI^e siècle comme base de calcul de la population,” in: *Turcica*, 12, Paris 1980, p. 125-155.)

Nicolas Oikonomides, “Ottoman Influence on Late-Byzantine Fiscal Practice”, in: *Südost-Forschungen* XLV, München 1986, p. 1-24.

Linda Darling, *The Ottoman Finance Department and the Assessment and Collection of the Cizye and the Avariz Taxes, 1560-1660*, Diss., Univ. of Chicago 1990 (also in print, with a slightly different title).

Machiel Kiel, “Remarks on the administration of the poll tax (Cizye) in the Ottoman Balkans and the value of Poll Tax Registers (Cizye Defterleri) for demographic research”, in: *Etudes Balkaniques*, Sofia 1990, p. 70-105.

Heath Lowry, “The Ottoman Tahrir Defterleri as a Source for Social and Economic History: Pitfalls and Limitations”, in: Lowry, *Studies in Defterology. Ottoman society in the 15th and 16th centuries*, *Analecta Isisiana*, Istanbul 1992, p. 3-18.

B.K. Ataman, “Ottoman Demography (14th-17th Centuries). Some Considerations”, in: *Journal of the Economic and Social History of the Orient*, 35, 1992, p. 187-198.

Margareth L. Venzke, *The Ottoman Tahrir Defterleri and Agricultural Productivity*, in: *Osmanli Araştırmaları/Journal of Ottoman Studies*, XVII, Istanbul 1997, p. 1-61.

John Alexander, “Counting the Grains: Conceptual and Methodological Issues in Reading the Ottoman Mufassal Tahrir Defters”, Abdeljelil Temimi (ed.) *Mélanges Prof. Machiel Kiel*, Zaghouan 1999, p. 55-70.

permanent settlements (*katun*) which are inside the village borders of Vitrinitsa are taken, according to the old manner, by the Sultan. All other taxes, what-so-ever they be, are taken by the property owner, as is said in the written order.”

Written upside down, on the top of the description of Vitrinitsa, is a later note (*der kenar*), stating:

“The status of private property of this village and all its belongings and dependencies has been abolished and have been added to the domains (*Has*) of the Sultan and are used as the other crown lands. Written on the twelfth of Şabân of the year 880 (beginning January 1476)”

Below this note the number of households, unmarried young men and widows, as well as the total tax revenue of the “village of Vidirindje” are written down, followed by the data on the Albanian *katuns*, listed one by one. Before we present and examine these numbers, it is interesting to consider the identity of Sultan Hatun.

The Identity of Sultan Hatun

Although Sultan Hatun is mentioned in the 1466 *icmal* and subsequent administrative texts as being a descendant of the princely house of Saruhan (located in Western Anatolia, with Manisa as capital) she appears not to have been known to the writers of the Ottoman chroniclers.

When in 1390 Yıldırım Bayezid had annexed the old Beylik of Saruhan he allowed some minor princelings to continue to live in some local centres in the area. The only Sultan Hatun the Ottoman chroniclers know was a princess of the house of Germiyan, also known as Devlet Hatun, who married Yıldırım and bore him some sons. She died, according to the sources, in 1414 and was buried in the yard of the famous Green Mosque of Bursa, then in course of construction on order of her son Mehmed I. The grave can still be seen. It can be added that the mother of this Sultan Hatun was a daughter of the famous dervish leader and philosopher Bahaeddin Sultan Veled, the son of the even more famous Djelaluddin Rumi of Konya.

Our Sultan Hatun was, according to our text, related to the former princely house of Saruhan and therefore must have been another person. Sultan Hatun of Saruhan must have been taken as a young child to the Ottoman court in 1390, after Yıldırım Bayezid had annexed Manisa and must have been given the former Catalan fief of Vitrinitsa as full and free property (*mülk*) as a source of maintenance. She had a daughter, as mentioned in our text. This daughter could have been born around 1415. The next preserved register of Central Greece, that of 1506, mentions her name, Selçuk Hatun.

History continued

The 1506 describes in some detail events after 1466/76. This information is partly repeated in the registers of 1521, 1540 and 1570, each one adding the changes which had taken place in the status of the property in the interval of time. The important introductory note to the 1506 register, T.D. 36, p. 735, as referred to above, reads in full:

“*Nahiye* of Vidrinidje.

Ziamet of Vidrinidje. The mentioned *ziamet* was originally the property of Sultan Hatun. Later her daughter Selçuk Hatun acquired it by inheritance. The mentioned Selçuk Hatun than married the aforesaid Kul Hızıroğlu Mehmed Bey. After the marriage, by way of inheritance, it became the property of Mehmed Bey. The aforesaid Mehmed Bey kept some as property of the foundation for his children, some as property for his mesdjid and zaviye (small mosque and dervish convent) in Gallipoli and some as his own property. According to the document of division (tevzi'nâme) one forth of the revenue is full property, one fourth of the remaining sum goes to the mesdjid and zaviye in Gallipoli and the remainder goes to the foundation for his descendants (vakf-ı evlâd). The different parts are used according to these stipulations. They possess orders and written decisions of the Lofty Threshold and a title-deed and a document of division of the Supreme Army Judge, Master Fenari-oğlu Ali Çelebi.”

[Total Yearly Revenue]:	44,000	[Akçe]
Part of the mentioned <i>mülk</i> :	11,000	”
Part of the <i>mesdjid</i> and the <i>zaviye</i> of the afore said Mehmed Bey in the town of Gallipoli:	8,250	”
Foundation for his descendants:	24,740	”

Mehmed must have received his confiscated estate back from Sultan Bayezid in 1481/82. The Kadiasker Fenarizâde Ali Çelebi was in charge from 1490 till his death in 1498.¹⁴ These dates tell us when the important change in the status of the territory of Vitrinitsa had taken place. Mehmed Bey died in 1498 (see infra). He had thus made the provisions shortly before his death.

From these pieces of information we are able to reconstruct at least a part of the administrative history of the district after it had become Ottoman territory.

The life of Mehmed Bey, son of Kul Hızır can be pieced together from other sources. Mehmed belongs to an old Ottoman family with strong ties to the city of Amasia. His grandfather was Yörgüç Pasha, who under Mehmed I (1413-1421) had been tutor (Lala) of prince Murad, the later Murad II (1421-1451). In 1428, in Amasya, Yörgüç constructed a beautiful *zaviye*-mosque, in the porch of which he was buried. Mosque and tomb are still to be seen. Mehmed's father Hızır Bey, later Pasha, son of Yörgüç Pasha, was the tutor of prince Bayezid, the later Sultan Bayezid II (1481-1512). The Ottoman chroniclers mention Mehmed Bey from 1476 onward. The contemporary historian Oruç Bey states that in 881 (1476/77) Mehmed ben Hızır became Third Vizier. According to Kemalpaşazâde, also a contemporary, Mehmed became tutor of prince Bayezid in 884 (1479), residing in the princely residence of Amasya.

Shortly after Bayezid came to the throne of Osman he appointed Mehmed as governor of the important frontier province of Semendire (Smederevo) on the Danube in Serbia. Soon thereafter, following the execution of the over-powerful Vezier Gedik Ahmed Pasha, Mehmed became Governor-General of European Turkey (Beylerbey of Rumeli). This must have been shortly after 18 November 1482. A year later, in the autumn of 1483, during Bayezid's great changes in the government, Mehmed became Vizier. In a preserved letter the Sultan's mother, Gülbahar Hatun (residing in Amasya,

¹⁴ Cf. Mehmed Süreyya's great biographical dictionary 'Sicil-i 'Osmânî', vol. III, Istanbul 1895, p. 487/88

where she erected a mosque that still exists) showed herself very content with the appointment of Hiziroğlu Mehmed to that lofty rank.

Shortly after the summer of 1485 Mehmed was appointed to Lala of Bayezid's son, prince Ahmed in Amasya. About that time he must have begun the construction of his monumental buildings in Amasya, a domed mosque with a number of rooms for guests attached to it, a kitchen for the poor, a religious college (*medrese*) and a convent for the then very popular orthodox dervish order of the Halvetiyye.¹⁵ According to the inscription over the entrance of the mosque, which still stands in Amasya, the work was completed in 891 (1486/87).

In 1486 Mehmed participated in the struggle against the Mamluks of Syria and Egypt and in 1489 in the struggle for the throne between the Zulkadr Princes Budak and Alauddevle. Most probably he remained Lala of Prince Ahmed till his death in 904 (1498/99) and was buried beside his Amasya mosque, next to the mausoleum of his father Hızır, the son of Yörgüç Pasha, which is also preserved.

The historical link between the owner of Vitrinitsa and his family with the city of Amasya, thus remains very visible till our time. No such tangible reminders of this link exist in Vitrinitsa. In fact in Vitrinitsa, and for that matter in all of Greece, the history of this link has been wholly forgotten.

More about Kul Hiziroğlu Mehmed, Sultan Hatun and Selçuk Hatun can be deducted from the information given in the sources.

Kul Hiziroğlu Mehmed must have been born around 1415. Sultan Hatun, the first Ottoman owner of Vitrinitsa, must have died relatively young. Her daughter Selçuk must have been a few years older than Mehmed, and must have received Vitrinitsa around 1445. She was given this property after the interval of an unknown number of years, when the Vitrinitsa area was out of Ottoman control. In 1466 Mehmed had not yet reached the exalted position of Pasha. The note in the register therefore still calls him "Bey". He must have been married to the daughter of the Saruhan princess because he himself was the son of an important family. In the 1470s, when Sultan Mehmed was in great need of money to finance his relentless wars, he also confiscated among many other properties Vitrinitsa. The additional note of 1476 refers to this event. At that time Mehmed had already risen to some importance (and income) and could do without his Greek property, but the measures were very unpopular, cutting as he did at the income of many and seriously weakening the Pious Foundations (*Vakfs*) which constituted the very basis of all religious and educational institutions.¹⁶

¹⁵ For the career of Mehmed Bey/Pasha see: Petra Kappert, *Die osmanischen Prinzen und ihre Residenz Amasya im 15. und 16. Jahrhundert*, Istanbul 1976 (Nederlands Historisch-Archaeologisch Instituut) 1976, p. 23/24 and 71/72, with further references to the sources. Other details in Hedda Reindl, *Manner um Bayezid, Eine prosopographische Studie über die Epoche Sultan Bayezids II (1481-1512)*, Berlin 1983, p. 273/78.

For Mehmed's buildings in Amasya see: Albert Gabriel, *Monuments Tuxes d'Anatolie, II*, Paris 1934, p. 42/43 and Planche VII. See also: *Türkiye'de Vakıf Abideleri ve Eski Eserler, I*, Vakıflar Gen. Müd, Ankara 1972, p. 224-229.

For the Halvetiyye order: Nathalie Clayer, H.J. Kissling and Grace Smith in Nikki Keddi (ed.) *Scholars, Sufis and Saints*.

¹⁶ For this reform see from various points of view: Bistra Cvetkova, "Sur certaines reformes du régime foncier au temps de Mehmed II", in: *Journal of the Economic and Social History of the Orient (JESHO)* 6, 1963, p. 104-120; Nicoara

Immediately after the mysterious and sudden death of the Conqueror his successor Bayezid II returned the confiscated *vakfs* to their former owners and Hızır-oğlu Mehmed also got his old property back. The more so because the new Sultan had been his pupil. Yet the 1506 register is silent about this restoration. Very probably Mehmed's division of his estate in *mülk* and in two *vakfs* must be seen as measure of precaution against new confiscations. The problem if Mehmed bought the property from Selçuk Hatun, as indicated in the 1466 note, or acquired it after his marriage and after her death (about which we know nothing) cannot be solved with the information at our disposal.

Demographic Developments

The Ottoman census and taxation registers of 1466, 1506, 1521, 1540, and 1570, and the register of the Poll Tax of 1603 allow us to sketch the rough outlines of the history of settlement and demographic development for the villages of our area over almost a century and a half. Thereafter, we are faced with a nasty gap of more two and half centuries for which no reliable statistical material seems to be available. However, when we jump over this gap and pick up the thread in 1879, with the first comprehensive census of the young Greek state, and follow it into the 20th century, we can establish some previously unexamined trends in the history of our area.¹⁷

The 1466 register MAD 66 shows us a very thinly populated area which had not yet started to recover from the general decline of European population in the 14th and early 15th centuries. Vitrinitsa was by far the largest settlement of the district and kept this place over the next half century. The average size of villages in the region was only 28 households. This low number was caused by the 13 settlements which are called *Arnavud katunlar* or semi-permanent settlements of Albanians. Vitrinitsa itself had 104 households of Greek Christians (judging by their names and patronyms), whereas the average Albanian *katun* had only 23 households.

Between 1466 and 1506 Vitrinitsa remained the same but the *katuns* grew to an average of 30 households. In the 15 years between 1506 and 1521 this trend accelerated. Vitrinitsa grew slightly, but the *katuns* grew to an average of 36 households. The real leap forward came in the two decades between 1521 and 1540. Vitrinitsa grew slightly to the height of 128 households but the 13 *katuns*, now registered as real villages, jumped to 74 households. By this time, Vitrinitsa had lost its place as the largest settlement of the district. The village of Plessa had overtaken Vitrinitsa in population and Likotoni, Marazia, and Nikola Grammatiko were at the point of doing the same. By 1570 Vitrinitsa had fallen to a fifth place in terms of households and total population. The village of Plessa had grown to be twice the size of Vitrinitsa.

These changes greatly effected the ethnic composition of the district. In 1466 one quarter of the population was Greek. By 1570, due to the Albanian population having

Beldiceanu, "Recherches sur le reforme foncière de Mehmed II", in: *Acta Historica* 4, 1965, p. 27-39; Oktay Özel, "Limits of the Almighty: Mehmed II's 'Land Reform' revisited," in: *JESHO* 42, Leiden 1999, p. 226-246.

¹⁷ The results of the Greek censuses are published every ten years by the Greek government as: *Plithismos tis Ellados / Population de la Grèce*, Athens.

grown at a higher rate, Greeks came to comprise only 8% of the population of the area. The Albanian character of the settlements referred to as *katun* in the sources, is confirmed by the names of their inhabitants. The *katuns* were evidently clan-based settlements. In Milea in 1506 (cf. T.D. 35, p. 741) the first inhabitant mentioned in the register, as per custom the head man of the village, was called Yorgi Milea. We also find an Andrea Muzaki, pointing to the region in southern Albania where he must have come from. There are also men with specifically Albanian names, such as Gjin or Leka. In Plessa (p. 137) no less than eight persons were called Leka, and several Gjin. In Nikola Grammatiko several persons have Grammatiko ("literate") as their patronyms, indicating both literacy and clan relationships.

The difference in ethnicity is also clearly visible in the structure of the village economy. Vitrinitsa had the diversified economy of an ancient established settlement. In addition to its salt pans and harbour-based economy, it produced textiles, cotton, and silk as well as some wine. The Albanian villages produced neither wine nor textiles. Although they grew some wheat and barley, they were dependent on tending very large herds of sheep. This also points to their semi-nomadic character. The situation in Mavronik in 1570 (T.K.G.M. 183, p. 197) provides a good example. The village grew only 400 kg of wheat and barley per family, which was totally insufficient to sustain its population. On the other hand there were 108 sheep per household, more than double the amount that a family of five in a pre-industrial society needed to survive.¹⁸ To give one more example, Kokovište produced in the same year 846 kg of cereals, also insufficient, but had 86 sheep per household.

By 1570, the total population of the district was thrice what it had been a century before. Whereas the population growth between 1466 and 1521 remained in accordance with general trend throughout Europe, growth between 1521 and 1540 was extraordinarily rapid. Indeed, it appears that the population of the *nahiye* of Vitrinitsa was approaching a limit beyond which no further growth would be possible. In the 30 years between the registers of 1540 and 1570 the population of the region continued to rise, but at slower rate. The numbers for 1603, taken from a detailed register of the poll tax (MAD 152), make clear that growth had already peaked. The total number fell back to the level of roughly 1530.

The data for 1570 shows that by the late 16th century the population had simply grown beyond the district's potential for agricultural production. Vitrinitsa, in spite of its diversified economy, did not expand. Plessa, on the other hand, with much more arable land available to it, had quadrupled in population and succeeded to hold its ground even throughout the difficult 17th century when the lower average temperatures caused severe

¹⁸ For the vital minimum of cereals see: Bruce McGowan, Food Supply and Taxation at the Middle Danube, in: *Archivum Ottomanicum* I, 1969, p. 153/57. Also Speros Asdrachas, *Mechanismo tis agrtikis oikonomias stin Turkokratia*, Athina 1978, p. 90 and 285. For the number of sheep per family see: W.D.Hütteroth, *Bergnomaden und Yaylabauern im mittleren kürdischen Taurus*. Marburger Geographische Schriften 11, Marburg 1959.

troubles in the agricultural output, locally as in almost all of Europe (the "Little Ice Age").¹⁹

Another village that did rather well was the former Albanian *katun* of Nikola Grammatiko. Somewhere between 1540 and 1570 its people were given the status of *derbendji* and charged with guarding a narrow pass in the road from Salona to Lepanto. Whereas all other Vitrinitsa villages declined in population between 1570 and 1603, Nikola Grammatiko, now called Xilogaidara, held its own. Its *derbendji* status, which provided its population with tax benefits and permitted them to bear arms and tax facilities, certainly contributed to its better survival.

The peak in growth during the Süleymanic age also hints at the size of the population of the in area Classical times, when the walled towns of Tolophon and Phryskeis must have contained the bulk of the district's population. Population during Classical times could hardly have been more than in 1570. The same conclusion was reached by Peter Doorn, who studied in detail the region of Lidoriki, just north of Vitrinitsa, having a very similar geography, i.e. mountainous terrain permitting cultivation only in small plots.²⁰

It is interesting to note that the numbers we have for the early years following Greek independence reflect the same trends as presented above. The villages belonging to Vitrinitsa suffered severely from the Greek War of Independence (1821-1828). It is most likely that the villages of Kokovište, Lambino, Likostiani, Likotoni, and Mavronik disappeared during these years. However, it is also possible that they passed out of existence during the troubled 1860s, when large scale banditry caused many smaller places to disappear, their inhabitants moving to the relative safety of larger settlements. This phenomenon was seen in many parts of the New Greek state.²¹ It is likely that the knowledge of the Albanian language in the former *katun* villages also disappeared during this time of great changes. Today no Albanian is heard in the old Vitrinitsa villages.

By 1879 the population of the Vitrinitsa district had recovered numerically. During the following decades it grew slowly. By 1920 it once again reached a point of saturation and hardly grew thereafter. World War II hit the area harshly once again. Most villages in the larger area of Doris, of which Vitrinitsa is a part, were destroyed and their populations fled or perished.²² The census of 1962 shows that the area had recovered to the level of 1920. Since then the rapid urbanisation of Greece, the explosive growth of Athens, and their limited possibility to expand caused the old Vitrinitsa villages to remain stagnant or to decline. Only the new settlements founded in the 19th century along the coast of the Corinthian Gulf expanded. Among them are the former *Wüstungen* of Kiseli

¹⁹ For the climatic changes in the 17th century see the bulky standard work of Janet M. Grove, *The Little Ice Age*, London, New York 1988; or Geoffrey Parker's succinct overview "The Little Ice Age" in: Parker (ed.) *Europe in Crisis, 1598-1649*, Glasgow (Fontana) 1979.

²⁰ Peter Doorn, "Geographical analysis of early modern data in ancient historical research: the Strouza Region Project in Central Greece", in: *Transactions of the British Geographers*, 10,3, 1985, p. 275-291. In more detail for all of Doris: S. Bommeljé – P.K. Doorn, *Aetolia and the Aetolians, Towards the interdisciplinary study of a Greek region*, Utrecht 1987.

²¹ See for example the canton of Locris, a similarly mountainous and relatively poor area as Vitrinitsa, described by Machiel Kiel and Friedrich Sauerwein, *Ost-Lokris in türkischer und neugriechischer Zeit (1460-1981)*, Passau 1994. In Eastern Locris nine of the 29 villages studied in that work disappeared in the 1860s.

²² P. Doorn, "Geographical Analysis" p. 278/80.

and Vidavi, now called Panormos and Agioi Pandes. The other new coastal settlements are Eratini and Paralía Tolophónos. Beginning in the 1970s all four saw a remarkable expansion thanks to tourism and to the construction of the new east-west *magistrale*. With the historic Vitrinitsa they have little in common.

ANNEX

M.M. 66, Defter-i Mühmel-i Liva-i Tirhala, 1466/67, fol 146^v

NAHIYE-i Vidrinice

“Karye-i Vidrinice mülk-i Mehmed Bey bin Kul Hızır ecdade Saruhan kızı Sultan Hatunıñ mülk imiş müteveffa olduktan soñra kızını değmiş ondan mezkûr Mehmed Bey satın almış elinde padişahımız mukarrernâme hükmi vardır haracını padişah alır sair mahsûlatını sahib-i mülk alır şimdikihalde tekrar arz olındı tecdîd mukarrer-nâme virilüp mezkûr Vidrinice sinurında oturan cemi‘ Arnavut katunlar ber karar-i sabık haraclarını padişah ala gayri rûsumları her ne olursa sahib-i mülk ala deyü hüküm olundi.”

Der Kenar:

“Bu mülk ...kırası tevabi ve levâkhiki bile mülkiyet ref‘ olup padişahımız ... haslarına ilhak olup sair haslar gibi has olur
tahriren fi 12 Şaban sene 880 (1474 der Kustantiniye).

T.D. 36, 1506. NAHIYE-i VIDRINCE

Zi’amet-i Vidrinice.

Zi’amet-i mezbure aslında merhum Sultan Hatunıñ mülk olub sonra kızı Selçuk Hatuna cihet-i ‘irsle müntekal

olub mezbure Selçuk Hatun mezkur Kul Hızıroğlu Mehmed Bey tezvîç olub nikâhle etdükden-sonra

cihet-i ‘irsle cümle Mehmed Beğün mülk olmuş. Müşar alehi Mehmed Bey dahi bazı vakf-ı evlad ve bazı Gelibolu’da olan

mescidine ve zaviyesine vakf etmiş ve bazı mülkiyet üzere ibka imiş tevzi‘name mücibince cümle mahsulatın

rub‘u mülk etmiş andan baki kalan rub‘u dahi Gelibolu’da olan mescidine ve zaviyesine vakf edüb bakisine mecvbm

vakf-i evlad itmiş hisseleri üslûb-i mezkur üzere tasarruf olunur elinde Dergah-i Mu’alladan hüküm

-i Humayun mukarrernameleri vardır ve Kazı al-asker Fenarioğlu Mevlana Ali Çelebiden hüccetleri ve tevzi‘nameleri vardır.”

The Demographic Development of the Villages of the Vitrinitsa District (in numbers of households)

	1466 MAD 66	1506 TD 36	1521 TD 367	1540 TD 431	1570 TKGM KuK 183	1603 MAD 15250	1878 Pl. Ellad.	1920 Pl. Ellad.	1962 Pl. Ellad.
Kokovište	15	23	27	[32]	35	8	/	/	/
Lambino	17	32	25	54	57	11	/	/	/
Likostiani	24	25	32	[35]	37	21	/	/	/
Likotoni	46	48	43	125	126	94	/	/	/
Makrisi	16	9	21	25	36	14	34	56	58
Malandrino	18	38	47	116	80	20	59	119	147
Marazi	31	48	60	[90]	125	78	79	85	45
Mavronik	9	9	17	29	37	16	/	/	/
Miléa	18	13	19	55	57	[25]	60	89	65
Plessa	64	48	77	219	244	176	111	188	199
Sotaína	18	29	33	53	59	46	21	33	62
Velaniko	14	6	9	[20]	45	50	38	50	80
Vitrinitsa	104	99	120	128	98	36	173	216	155
Xilogaidara	20	59	64	[110]	157	156	104	135	110
Totals	414	486	594	1.091	1.196	746	679	915	921

Research and design M. Kiel, 2004.

Explanation: [20] our reconstructed number. In 1466 Velaniko was called Kalamo. In 1506 both names are given. By 1521 the name Kalamo was no longer used. From 1466 to 1540 Xilogaidara was called Nikola Grammatiko. The numbers for 1879, 1920 and 1962 are in the census give as total inhabitants. As the registers also give the average household size per district we have divided the number of individuals by the household size. This might give slight differences in the household numbers of these three years. The village of Xilogaidara is now called Kallithea, Plessa is Amygdalea, Velaniko is Elaia.

<p>1674</p> <p>مات ۱۲۹۳</p> <p>مات ۲۰۱۲</p>	<p>مات ۱۲۹۳</p> <p>مات ۲۰۱۲</p>
<p>مات ۱۶۳۱</p> <p>مات ۱۶۳۱</p>	<p>مات ۱۶۳۱</p> <p>مات ۱۶۳۱</p>
<p>مات ۴۵۴۵</p> <p>مات ۴۵۴۵</p>	<p>مات ۴۵۴۵</p> <p>مات ۴۵۴۵</p>
<p>مات ۲۹۱۱</p> <p>مات ۲۹۱۱</p>	<p>مات ۲۹۱۱</p> <p>مات ۲۹۱۱</p>
<p>مات ۱۲۱۲</p> <p>مات ۱۲۱۲</p>	<p>مات ۱۲۱۲</p> <p>مات ۱۲۱۲</p>
<p>مات ۴۴۵۰</p> <p>مات ۴۴۵۰</p>	<p>مات ۴۴۵۰</p> <p>مات ۴۴۵۰</p>

Maliyeden Müdevver (MAD) N° 66, from the year 1466/67, p 147. Introductory notes and short description of all the settlements belonging to Ziamet of Vitrinitsa

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ماہ صفر

زعام

زعامت فرزند لعلدره و صوم سلطان خان نوین مکان لولوپ صکار فرزند سلجوق خان نوین جغت ارناشتغر
لولوپ فرزند سلجوق خان نوین مذکور فوقی حضرت اوغان محمد بن سلجوق لعلوب نکاحام الد و قدر صکاره
جغت ارناشتغر محمد بن لعلوب لعلوب لعلوب و بعضی کلبیولید اولاد
مسیحی نه و زار و پسته و قف آتش و بعضی ملکیت و زر نه اینا آتش نوین نه به جغت علی لعلوب
ربنی ملک آتش لعلوب باغ قلندر و بعضی ملکیت و زر نه و بعضی ملکیت و زر نه و بعضی ملکیت و زر نه
وقف لولوب آتش صکار لعلوب مذکور و زار و پسته و قف آتش و بعضی ملکیت و زر نه و بعضی ملکیت و زر نه
ماہیون مقرر نه لعلوب و زار و پسته و قف آتش و بعضی ملکیت و زر نه و بعضی ملکیت و زر نه

ماہ لعلوب و زار و پسته

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موقوف لولوب و زار و پسته ...

Tapu Defter (T.D.) N° 35, Anno 1506/07, p. 735. Introductory note, description of how to divide the tax revenue, and the beginning of the enumeration of the heads of households, of the village of Vitrinitsa, with their names and patronym.

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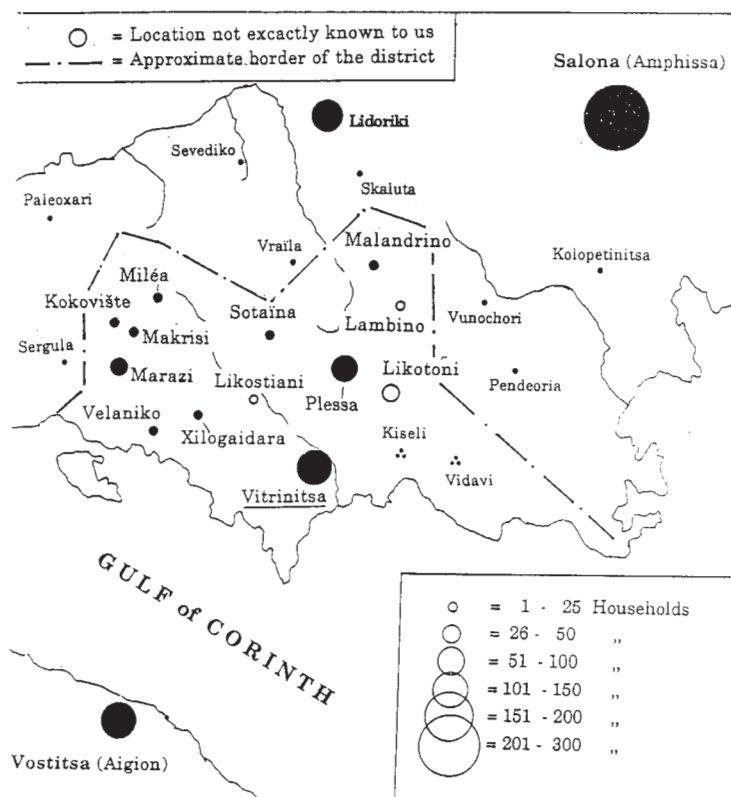
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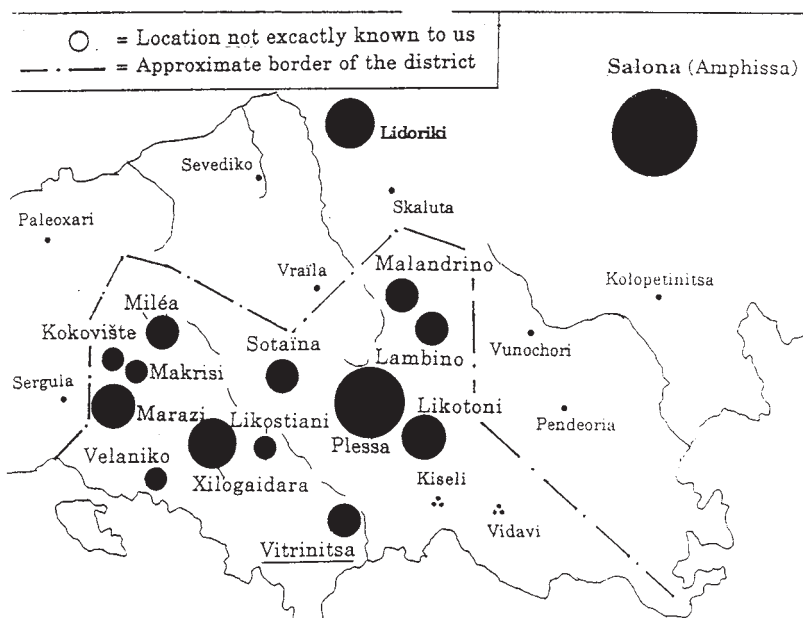
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T.D. 35, 1506/07, p. 741, lower part. Description of the village of Kokovište, with 23 households, 3 unmarried adult males and 2 widows, and a survey of the agricultural production. A little note at the bottom introduces the next village, Nikola Grammatiko (later: Xilogaidara)



The District of Vitrinitza in 1466
 according to MAD N° 66



The District of Vitrinitza in 1570
 according to T.K.G.M. N° 183